

# CIO

THE RESOURCE FOR INFORMATION EXECUTIVES

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How to Prepare for Nature's Worst

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How Procter & Gamble Gets  
The Word Out About 300 Brands

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# THE ULTIMATE COST OF OFFSHORE OUTSOURCING

A SPECIAL REPORT

## Are We Sabotaging Our IT Future?

### THE POLITICS

The Growing Backlash  
That's Putting Your  
Enterprise's Image at Risk

By Christopher Koch

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### THE PEOPLE

The Radicalization  
of IT Workers

By Ben Worthen

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### THE MONEY

How You Can Calculate the  
Hidden Costs of Offshoring—  
a Work Sheet

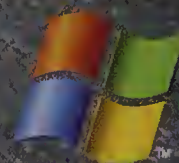
By Stephanie Overby

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Microsoft

Securing your network requires a team of 10.



Microsoft  
Windows Server 2003

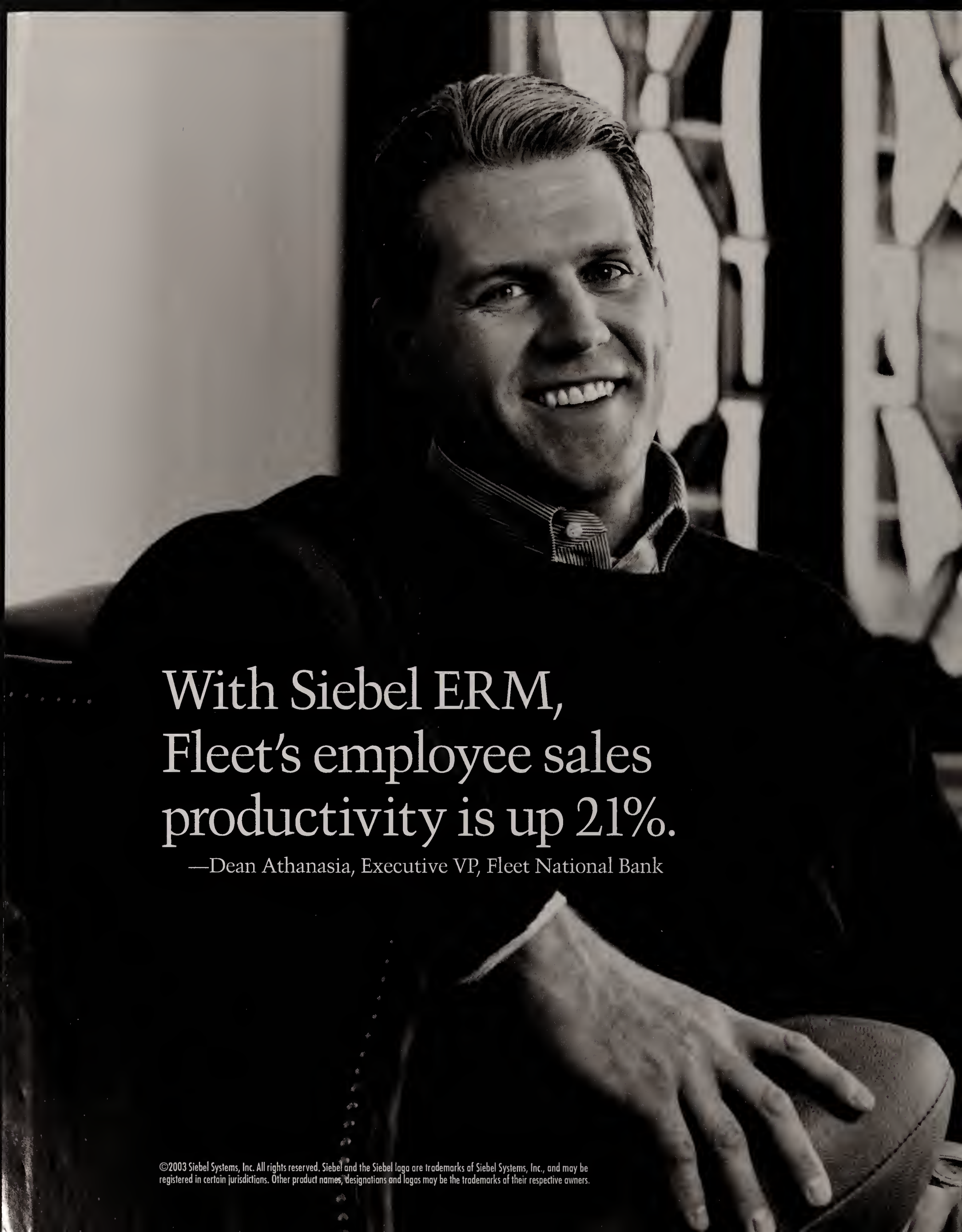
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A photograph of a modern building entrance. A large, bright orange awning extends over the entrance area. Below the awning, the floor is wet and highly reflective, mirroring the building's structure and the sky. In the background, a glass door and a yellow caution cone are visible. The overall scene is captured in a cinematic style with high contrast.

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VOL. 16 • NO. 22 • SEPTEMBER 1, 2003

## COVER STORY

# THE ULTIMATE COST OF OFFSHORE OUTSOURCING

CIOs are becoming cautious about publically endorsing offshore outsourcing, though most believe that the trend will continue. "We don't want a situation where the public sees us as a malevolent force and takes it out on our products," says one Fortune 100 CIO.

## Features

### SPECIAL REPORT | OFFSHORE OUTSOURCING

#### The Politics

##### Backlash | 44

As a growing number of IT jobs move overseas, some CIOs and economists prophesy a political storm against offshore outsourcing. *By Christopher Koch*

#### The People

##### The Radicalization of Mike Emmons | 55

Until he was laid off by a company moving jobs offshore, Mike Emmons rarely voted. Now the computer programmer is considering a run for Congress. *By Ben Worthen*

#### The Money

##### The Hidden Costs of Offshore Outsourcing | 60

Moving jobs overseas can be a much more expensive proposition than you may think. *By Stephanie Overby*

MORE ►►►

Outsourcing has affected many in IT: TRW Automotive's Joe Drouin (top) dealt with layoff backlash; IEEE's Ron Hira (left) blames government visas for encouraging the trend; BNSF Railway's Jeff Campbell (center) views offshore development as inevitable; and Mike Emmons (right), a displaced programmer, thinks it's just plain wrong.



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**THE BEST-RUN BUSINESSES RUN SAP**



## Features *continued*

### **BUSINESS CONTINUITY** **Twister, Hurricanes,** **Floods (Oh My) | 68**

While you were busy securing your organization for a possible terrorist attack, along came the weather. Here's how to prepare for the worst Mother Nature has to offer.

*By Matt Villano*

### **CASE FILES | CUSTOMER FOCUS** **300 Brands, One Strategy | 79**

When your reach is as vast as Procter & Gamble's, building a worldwide view of your customers is a matter of thinking globally and acting locally.

*By Meg Mitchell Moore*

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### **THE NEW WORK ORDER** **Big Offices Are Better | 36**

And other findings from the universe of productivity metrics. *By Tom Davenport*

### **REAL VALUE** **Don't Ignore the** **Intangibles | 40**

Even benefits that are hard to quantify can be an important part of a successful business case. *By Jack Keen*

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### **Your Guide** **to Managing**

#### **GM's Matrix Reloads**

How an org chart can inspire internal competition, drive process efficiencies and make a business more competitive.

*By Edward Prewitt*

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Leadership lag—why followers don't know the corporate vision.

#### **Leadership Agenda | 96**

Answers to your questions on how to win allies and influence your peers.

*By Susan H. Cramm*



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GM CIO **Ralph Szygenda** admits that his matrix bothers some people, but it has helped cut GM's IT budget by \$1 billion during the past seven years.

### **CAREER COUNSEL** **The School of Life | 86**

Although an official degree—preferably an MBA—is good to have, don't knock the school of hard knocks in your quest for education. *By Beverly Lieberman, Gerry McNamara and Mark Polansky*

## Sections

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Oracle's big appetite; Tiny sensors; India's new privacy rules; Doctors' group profits from ERP. *And more*

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CIOs on the go—see where your IT peers are working now.

**PROFILE:** Lucent's Ruth Bruch

## In Every Issue

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Offshore outsourcing is a thorny issue for IT workers. You need to take a stand.

*By Abbie Lundberg*

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Reader feedback

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When we don't know, this is who we ask.

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Abstracts of all the feature stories found in this issue.

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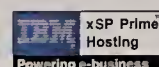
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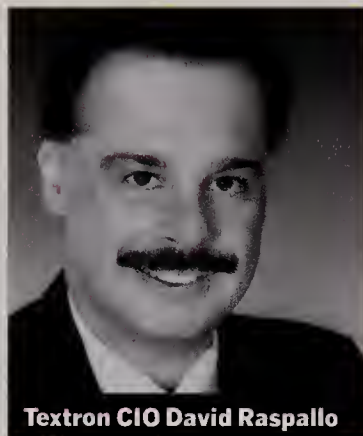
## INTERACTIVE >features

from September 1 to September 15

### ASK THE SOURCE

## What Are the Real Costs of Going Offshore?

Think outsourcing offshore is a breeze? David Raspallo, CIO of Textron Financial, knows otherwise (see **The Hidden Costs of Offshore Outsourcing**, Page 60). His vendor selection process took 500 hours, involved himself and three senior managers, and cost \$20,000 in additional expenses. The infrastructure better be seamless or "you'll have a lot of costly issues to deal with," he adds. Ask Raspallo about those issues—costly and otherwise—until Sept. 15. Go to [www.cio.com/ask](http://www.cio.com/ask).



Textron CIO David Raspallo

### INTERACTIVE WORK SHEET

## Calculate the Costs for Yourself

Our work sheet, **Do the Math** (see Page 61), gives you the best and worst case parameters of going offshore, from an additional 15.2 percent to a whopping 57 percent on top of the \$1 million cost of the work. What would be your true costs? The **Work Sheet Online** lets you plug in your own numbers.

### READ MORE

## Web Exclusive: Portrait of the Out-Sourced

Like Mike Emmons (see **The Radicalization of Mike Emmons**, Page 55), Daniel Soong never thought of himself as political. But 18 months out of work and a peer's suicide can really change one's opinion. Read Soong's story of an American worker betrayed in **No Americans Need Apply**.



Database Manager Mike Emmons

### Our Daily Web

#### MONDAY Tech Tact

Technology Editor Christopher Lindquist covers what's coming.

#### TUESDAY Quick Poll

Vote with your mouse, and see how other IT leaders feel about current events.

#### WEDNESDAY Metrics

Web Writer Jon Surmacz makes sense of the numbers.

#### THURSDAY Sound Off

Web Editorial Director Art Jahnke opines on managerial, political and ethical dilemmas.

#### FRIDAY The Big Picture

Charts and graphs that are worth a thousand words.

#### EVERY WEEKDAY The News

We synthesize the top IT news stories of the day.

### Peer Resources

Sister publication Darwinmag.com has also delved into the outsourcing fray. Read **Outsourcing: Backlash**—and its dozen-plus comments, from economically clear-eyed support of offshore outsourcing to an experienced questioning of touted savings. Go to [www.darwinmag.com](http://www.darwinmag.com) and search on "Backlash."

And don't forget the security issues. In CIO sister publication CSO magazine, an anonymous CSO writes about the importance of keeping security management in-house in **Why Outsourcing Won't Work**. Go to [www.csoononline.com](http://www.csoononline.com) and search on the article's title.

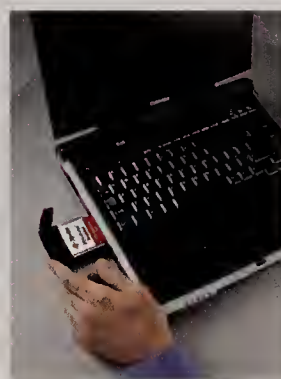
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# From the Editor

lundberg@cio.com



The debate around the perils of offshore outsourcing has been swirling for months on CIO.com. Jump in with your own comments. Go to [www.cio.com/outsourcing](http://www.cio.com/outsourcing) and scroll down to Sound Off.

## Are You an Activist?

**BACK IN JUNE**, I received an e-mail from my 13-year-old daughter about a rule change being made by the FCC allowing for greater consolidation of media ownership. The e-mail sent me to a website (MoveOn.org) that was conducting a grassroots effort to lobby Congress to vote against the change. Moved by my daughter's indignation (and impressed by her understanding of the issues), I added my voice to the effort, as much in support of her activism as the issue itself.

On July 23, the House of Representatives voted 400 to 21 to block the change. My daughter clipped the article from *The Wall Street Journal* and taped it to her wall. I saw this as a reinforcing lesson in democracy for a child whose views are still forming. Sadly, for me, this minor venture into activism was all too rare. And it made me realize that, as concerned as I am about political, social and environmental issues, I've behaved most of my life as a passivist (not to be confused with "pacifist").

I'm certainly not alone. Americans, by and large, rarely stretch to engage in the democratic process. We're too busy: working, going to the doctor's and the grocery store, driving the kids around, putting dinner on the table. It's not until something dire and personally threatening comes along that most of us can muster the energy to try to effect change. The trouble is, by then it's often too late.

Offshore outsourcing has become such an issue for IT workers, many of whom have seen their jobs

move overseas (see "The Radicalization of Mike Emmons," by Ben Worthen, Page 55).

There are three pivotal questions that will determine if offshoring and the resulting loss of U.S. jobs will achieve urgent status for the rest of us:

- Will offshore outsourcing be reserved for only the most basic types of IT work? There's already evidence that it won't.
- Will the headache of managing the relationships make companies willing to pay the higher price for domestic workers? Doubtful—companies are already figuring out how to make these arrangements work smoothly.
- Will some new type of knowledge work arise to create replacement jobs for hundreds of thousands of displaced IT workers? That's anyone's guess, but there's nothing on the horizon to suggest it. (See "Backlash," by Christopher Koch, Page 44.)

I'm not a protectionist. But given the stakes, I do believe Congress should act swiftly to limit the number of H-1B and L-1 visas that offshore companies use to bring workers into this country to coordinate work overseas. And they should add a provision to the L-1 requiring equitable pay scales. This won't stop offshore work, and perhaps it shouldn't. But it may give us some time to think things through and better manage the transition.

Is this an issue you should be active in? E-mail me (after you e-mail your congressman) and let me know what you think.

*Alkis Lundberg*

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# InBox

Reader Feedback

## KNOWLEDGE WORKERS SHOULD WATCH THEMSELVES

It's encouraging to see Tom Davenport direct his June column ["A Measurable Proposal," June 1, 2003] to the world of knowledge workers and how we might make them more effective.

His starting point is hard to object to: "For several decades, whenever we've had to automate a function, we've undertaken a good deal of systematic thinking beforehand. We do a detailed task analysis and requirements definition; we model process and information flows." But Davenport risks falling into a subtle but dangerous trap.

The trap is in assuming that the techniques of productivity improvement that worked so well for industrial work apply directly to knowledge work. The productivity improvement efforts that started with Frederick Taylor, the founder of systems engineering, and drove economic growth in the last century were built on the systematic observation of work practices and the assumption that there was "one best way" to perform any given task.

That assumption of "one best way" will derail efforts to improve the effectiveness of knowledge work. Knowledge work is craft work brought into the 21st century. The outputs of knowledge work are one-offs—not standardized, reusable parts. Analyses, decisions and designs all derive their value from being tailored to the moment and the situation.

The challenge for Davenport, and for all of us trying to make knowledge work more effective, is to adopt Taylor's perspective without the unreflective use of the techniques.

Davenport's unstated, industrial assumption is that you need to involve knowledge workers in the process because they have more organizational power than those we inflicted reengineering on, and they won't sit still for similar treatment. That's certainly true.

But the important reason for involving them is that they are the only effective judges of their work quality. If you accept the premise that knowledge work is craft work, then you have to allow the creators of that work the freedom to pursue their craft. You don't improve

things by chaining knowledge workers to an assembly line. I don't want 10 marketing strategies in place of one. I want a marketing strategy that is 10 times better. Getting that will take a great deal of systematic observation. But the improvements to be built on that observation will depend on helping each individual knowledge worker learn to make the most of the tools we provide.

Jim McGee

Director

Huron Consulting Group

[jmcgee@huronconsultinggroup.com](mailto:jmcgee@huronconsultinggroup.com)

*Tom Davenport responds: For the most part, I agree with Jim McGee, but don't think that I fell into the traps he describes. I didn't mean to insinuate that we should treat knowledge work the way we've treated more structured business functions—only that we should give it at least as much attention. And I certainly don't think there's "one best way," although I would guess and hope that some ways are better than others.*

*Where I would disagree with McGee is that knowledge workers "are the only*

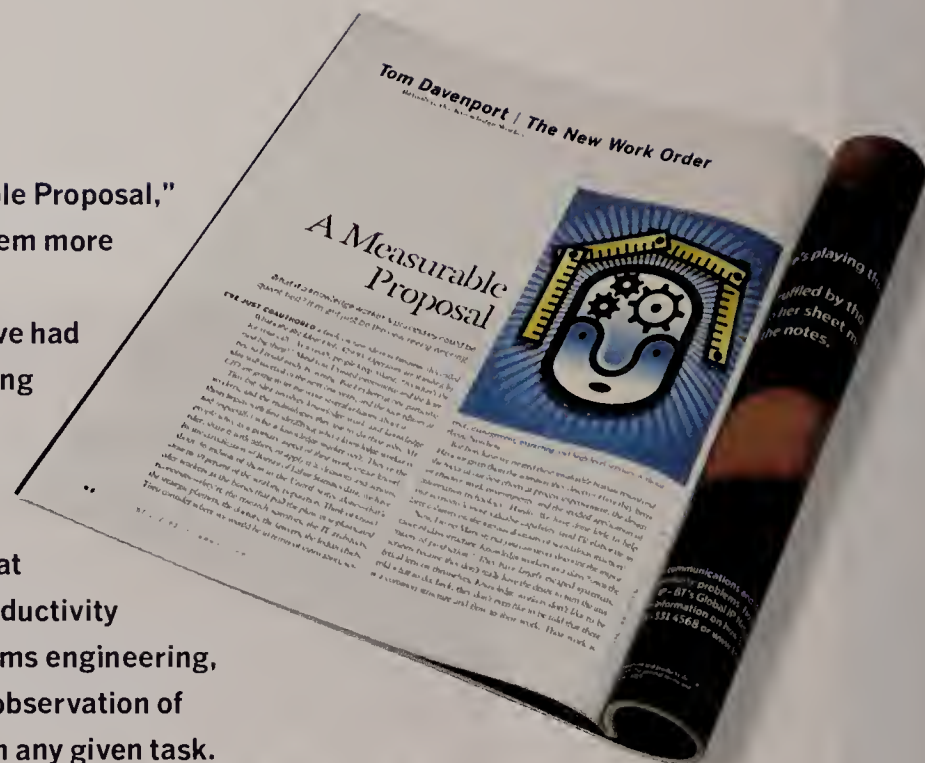
*effective judges of their work quality." It seems obvious that the quality of marketing strategies, new product designs or articles in CIO—all products of knowledge workers—can be assessed by people other than their creators. Knowledge work may be craft work, but some crafters are more efficient, effective and innovative than others. It seems likely that the worst crafters can learn something from the best.*

## CORRECTION

An item in the Aug. 1, 2003, "On the Move" column misstated the source of information for Lucent Technologies CIO Ruth Bruch's appointment to the Mellon Financial board of directors. It was Mellon Financial, not Lucent.

## WHAT DO YOU THINK?

Send your thoughts and feedback to [letters@cio.com](mailto:letters@cio.com). Letters may be edited for length or clarity. For links to the articles mentioned, go to [www.cio.com/printlinks](http://www.cio.com/printlinks).





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**Q:** How does Sharp protect the network interface?

**A:** The Sharp Ethernet card allows administrators to restrict access and disable unnecessary protocols. With this network card, the Sharp digital copier is essentially protected by its own firewall.

**Q:** How can you be sure that security products actually perform as claimed?

**A:** The Common Criteria program—administered by the U.S. National Security Agency and the National Institute of Standards and Technology—evaluates security solutions. Products that are validated under the program meet security levels consistent with ISO 15408 methodology.

**Q:** How can Sharp improve IT security?

**A:** Sharp offers print privacy solutions designed to restrict unauthorized personnel from seeing confidential materials. Copier access can be controlled and monitored, while documents retained in printer/copier/scanner/fax memory are immediately cleared to eliminate unauthorized access.

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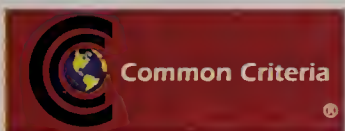


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# trendlines

the **NEW** the **HOT** the **UNEXPECTED**

Edited by Lafe Low and Michael Goldberg

ENTERPRISE SOFTWARE

## Oracle's Appetite Makes Some Users Feel Queasy



### Change Is Hard

CIOs, asked to name their single biggest fear concerning Oracle's proposed takeover of PeopleSoft, cited rising prices more than switching costs or support services

- 46%** Prices soaring due to lack of competition
- 25%** Having to switch application systems
- 16%** Not concerned about the proposed acquisition
- 9%** Oracle not supporting current PeopleSoft service agreements
- 4%** Other

Total number of responses: 181

SOURCE: CIO Best Practice Exchange online survey of CIOs from companies with more than \$250 million in revenue, July 2003

**IT'S THE SOFTWARE** industry hunt of the season. Oracle, a big ERP fish, has been stalking smaller fish PeopleSoft and J.D. Edwards (PeopleSoft's friendly merger partner).

Oracle's \$6.3 billion hostile takeover bid for PeopleSoft—under Department of Justice review as of this writing—sounds like a summer blockbuster. But the prospects of PeopleSoft getting swallowed up gives many customers indigestion and visions of their companies' hemorrhaging money. That's because their software will eventually be consumed as part of the consolidation meal.

ERP is expensive enough—between \$40 million and \$250 million for a typical Fortune 500 company, according to AMR Research—without having to change your software and start over because your vendor got eaten.

When Oracle CEO Larry Ellison announced last June that he was launching a hostile bid for PeopleSoft (which had just announced that it was acquiring J.D. Edwards), he said customers of those vendors would move over to

*Continued on Page 24*

FOLLOW-UP

## Job Hunt, Continued

**ECONOMIC INDICATORS** are one thing, but a job in your field is something else. And so on this Labor Day, members of the 495 Networking Support Group, a referral organization for technology and IT professionals, carry on their campaigns for new jobs.

A lot has happened since CIO magazine first reported on the group, which meets weekly at a synagogue in Westboro, Mass., to trade job-hunting tips and encouragement (see Trendlines: "IT Workers of the World Unite!" in May 1, 2003, at [www.cio.com/printlinks](http://www.cio.com/printlinks)).

The nation's jobless rate ticked upward since our article to 6.4 percent in June. (Massachusetts hovered at 5.6 percent.) The 495 group, meanwhile, now a nonprofit organization, rents office space in a former mill building in Maynard, Mass., that once was home to Digital Equipment. (There, members can get training, access the Internet, print résumés and offer their services as contractors.) The group's relaunched website ([495nsg.org](http://495nsg.org)) sports an enhanced database retrieval system for searching help-wanted ads and its 1,400 member profiles.

Peter Kite, a laid-off product marketing manager who recently became the 495 group's volunteer president, says these moves better position the organization to achieve its goal of helping laid-off IT workers. "People have received jobs," he says. "They're not thick and fast, but they're happening. We feel positive that the work we're doing is bearing fruit."

**MORE ON THIS TOPIC** | CIOs are voicing concerns about the political ramifications of IT jobs moving overseas. See "Backlash" on Page 44.

A black and white photograph of two men in business suits sitting in the back of a car. They are both laughing heartily, looking towards the right. The man on the left is wearing a dark suit and a striped tie. The man on the right is wearing a light-colored suit and a patterned tie. The background shows a city street with buildings.

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R A D I O F R E Q U E N C Y I . D .

# Tiny Sensors

**TECHNOLOGY OBSERVERS** have been touting the coming proliferation of wireless sensors that will report all sorts of data about the stuff to which they are attached. Now researchers from Accenture say they are watching a Berkeley, Calif., company called Dust Inc. to see how it executes its plans to sell small electronic sensors called motes.

Motes are electronic devices comparable in size to a nine-volt battery, and they are on their way to being the heft of an aspirin tablet in a couple of years, says Kris Pister, Dust's president and CEO. Motes contain a tiny computer, radio, sensors and a power supply, and they are designed to transmit data about location, temperature, vibration, light, sound and airflow.

In this scheme, one mote can contain several sensors to collect different kinds of data. The motes then form their own mesh network using wireless radio technology; getting the data from the sensor networks to a Dust database requires the use of network gateways.

The motes have the life expectancy of a decade. "They are

asleep 99 percent of the time. They do communicate every second, but they can send information in five milliseconds," says Pister. Starter kits of 50 to 100 motes cost between \$2,500 and \$5,000, Pister says, depending on the number of sensors per mote.

Pister cites applications such as monitoring HVAC systems in office buildings, petroleum pipelines and chemical supplies. Chad Burkey, a senior researcher at Accenture, figures the motes will be useful on the manufacturing floor. And the possibilities proliferate from there.

—Julie Hanson



Dust Inc.'s motes transmit data (such as asset location and temperature) via radio frequency. Above, 10 motes, each the size of a 9 volt battery, encircle a network gateway device.

## Oracle's Appetite

Continued from Page 22

Oracle software. Ellison softened that stance when PeopleSoft and J.D. Edwards customers started screaming, pledging that Oracle would continue to support current versions of PeopleSoft and J.D. Edwards.

But that's cold comfort to customers of the two smaller vendors, who know that even if Ellison keeps his word, future development on their software will cease—it simply won't make business sense for Oracle to support three different software development cycles—and they will be stuck with multimillion-dollar legacy systems. In a survey on CIO's Best Practice Exchange, 46 percent of 181 CIOs surveyed said they are worried about soaring prices as a result of market consolidation should an Oracle-PeopleSoft merger go ahead (see "Change Is Hard," Page 22).

"We already went through the process of evaluating Oracle, SAP, J.D. Edwards and PeopleSoft, and we chose PeopleSoft," says Wynne Powell, president and COO of London Drugs, a chain of 59 pharmacy stores in Canada. "If we have to change, it won't be for business reasons, it will be because one competitor is trying to crush another."

Powell estimates that it would cost his 7,500-employee company \$25 million to rip out its PeopleSoft system and replace it. And he says he bought PeopleSoft because it has some functions that the other vendors' software didn't. "Unless Oracle adds some capabilities to its software, I'm not sure we could move over even if we wanted to," he says.

Of course, you can't blame Oracle for wanting to gobble up its competitors. That's business. But the degree of angst among users of the gobbles' software illustrates just how dependent ERP customers have become on their ERP vendors. And it's not just software. Rip out the software, and you can cripple essential business processes. That's because those processes got hobbled temporarily the first time companies installed their ERP systems. Switching would likely cause them to relive that nightmare.

Analyst Barry Wilderman of research company Meta Group estimates that switching ERP systems from one vendor to another could take at least a year. "Anybody who considers switching 'a walk in the park' is wrong," says Wilderman. "It is like a new install." He estimates that less than 2 percent of ERP customers switch vendors willingly. The vast majority of switches occur when a company buys or merges with another that has a different ERP system.

If Oracle does swallow PeopleSoft, CIOs may want to advise their CEOs to go on the hunt for a company with a different ERP system—at least then the switch might make business sense.

—Christopher Koch

### Disaster Recovery: An Executive Suite Disconnect

# 52%

of CIOs surveyed said their data is very vulnerable if a disaster struck their companies.

# 14%

of business executives surveyed said their data is very vulnerable if a disaster struck their companies.

SOURCE: Phone survey of 274 executives at \$1 million-plus U.S.-based companies by RoperASW, done in April and May for storage vendor EMC



## END-TO-END BUSINESS INTELLIGENCE. ONE BI VENDOR. IT NIRVANA.



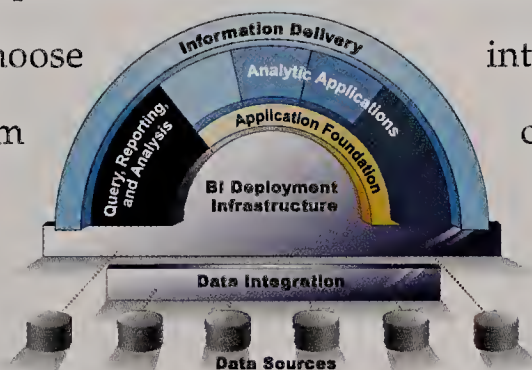
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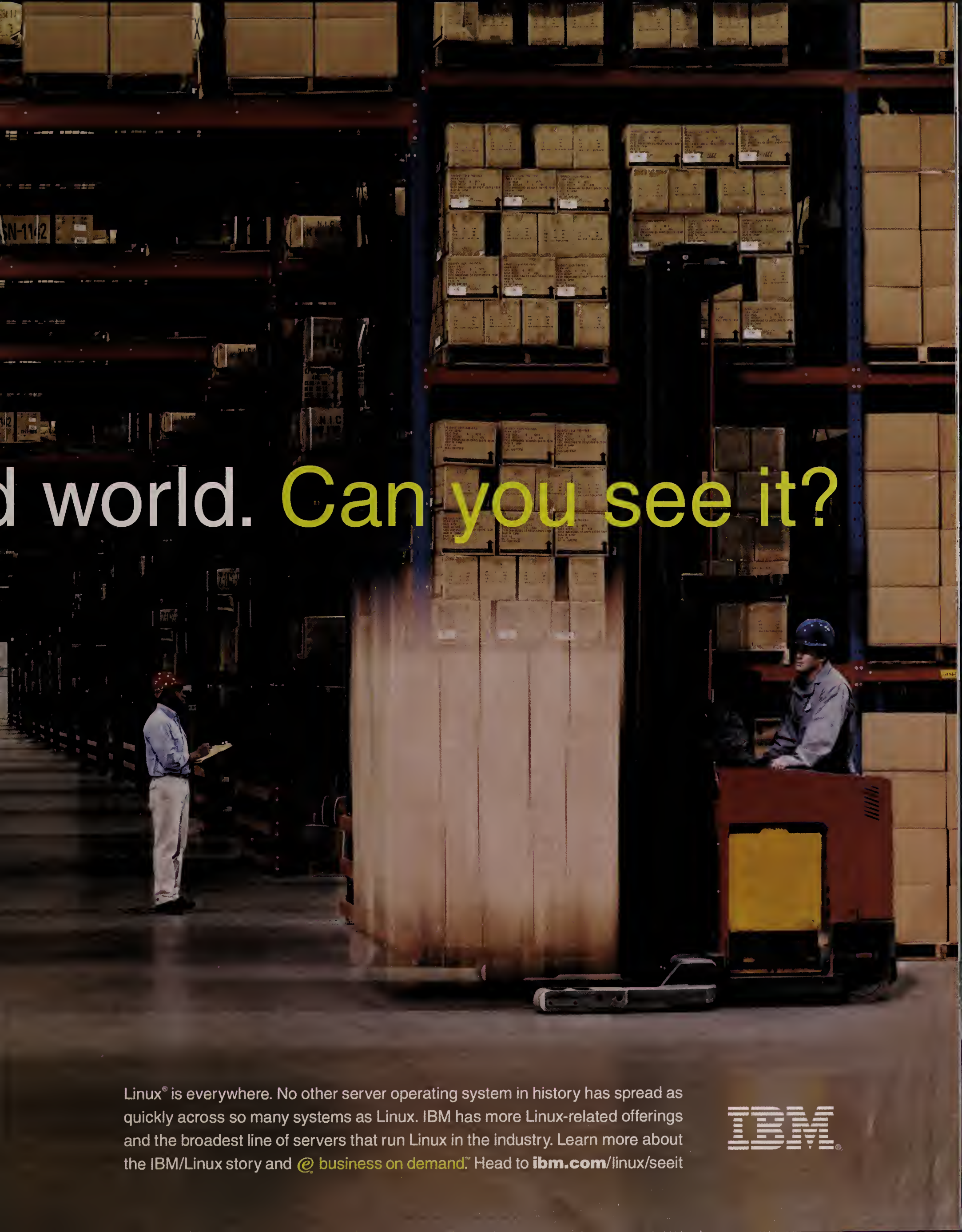
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## DATA PRIVACY LAWS

## India to Adopt Data Privacy Rules

**TWO POWERFUL PLAYERS** in India's outsourcing industry are drafting a data protection law designed to quell growing privacy concerns from their offshore clients.

India's Ministry of Information Technology and the National Association of Software and Service Companies (Nasscom) in New Delhi expect the legislation to be in place early next year. It would provide legal safeguards to ensure data privacy protection in India, according to Nasscom President Kiran Karnik.

Such safeguards are required for all data leaving the European Union, which is a result of the EU Data Protection Directive and is what prompted India to act. But the regulations could prove beneficial for American companies as well.

European Union data protection rules prompted India to enact its own law mandating safeguards for data sent to India for offshore outsourcing contracts.

Some CIOs worry whether a data protection law would have any teeth in India's courts. But competition for offshore business should keep the courts on the straight and narrow. "Nasscom and India understand how vital a clear policy on data protection and privacy are to the trust and confidence of foreign clients," says Bierce, adding that the rules will most likely be enforced by a special appellate court established under India's Information Technology Act of 2000.

Nonetheless, CIOs must remain diligent about Indian vendors to ensure the privacy and security needs of their companies.

"India's privacy legislation is positive, but much more important is for CIOs to ensure that their outsourcing agreements contain detailed and precise contractual specifications regarding data privacy and protections," says Hank Zupnick, senior vice president and CIO of GE Real Estate, who works with several Indian IT services companies. Specific remedies for noncompliance should be spelled out in the contract, adds Zupnick, and the contract should have legal jurisdiction in the state or province where the CIO's company is headquartered. —Stephanie Overby

No U.S. law currently prohibits information—such as Social Security and driver's license numbers, employment histories, and medical records—from being shipped to or accessed from other countries, says William Bierce, attorney and president of New York City-based law practice Bierce and Kenerson. However, the number of U.S. companies required to comply with industry-specific and state laws is growing. Laws such as the Health Insurance Portability and Accountability Act (HIPAA), Gramm-Leach-Bliley Act, and California's pending SB 1386 identity-protection law regulate what data companies can share. With offshore outsourcing deals, data protection provisions are usually written into service contracts.

## OFFSHORE OUTSOURCING

## Going There, Doing That

**ASKED ABOUT THEIR** companies' offshore outsourcing experiences and expectations, 101 CIOs, IT executives and managers in a CIO survey confirmed what you might expect. India was the major destination (89 percent have work done there). Labor costs were the biggest area for savings (according to 86 percent of respondents). And application development was the main activity (86 percent contracted for this work offshore). The survey also found that companies expect a fast return and other benefits from going offshore.

### Productivity Gain

Once they figure out cost savings, executives most often cited IT productivity and competitive advantage as the benefits of offshore outsourcing

- 44% IT department productivity
- 30% Competitive advantage
- 21% Employee productivity
- 20% Internal customer satisfaction
- 17% System uptime
- 13% Increase in revenue
- 13% Soft benefits (employee job satisfaction, turnover rates, morale)
- 11% Customer satisfaction (external)
- 8% Percent of business/service conducted via the Web
- 9% Other

### No Area Untouchable

Asked which processes and applications they probably wouldn't outsource to an offshore contractor, survey respondents say systems planning and R&D are important to keep in-house. But no process was deemed untouchable by more than 50 percent of the respondents.

- 45% Systems and architecture planning
- 43% Research and development
- 38% Business process (such as HR, finance)
- 35% Data center
- 32% IT infrastructure
- 22% Call center
- 17% Help desk
- 15% Systems administration/support
- 6% Application development/maintenance

SOURCE: CIO's offshore outsourcing survey tabulated results from 101 CIOs, IT executives and managers during May 2003.

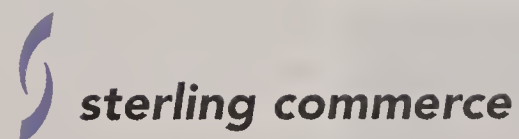
## Plan A:

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for integrating data, enterprise  
and partners. Waste months.  
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# On the Move

By Meredith Levinson

## Hopping On Boards

**IT'S OFFICIAL:** Ralph Szygenda has arrived. Last June, the Handleman Co. appointed the General Motors CIO to its board of directors. Szygenda joins CIO luminaries



Ralph Szygenda

like **Ruth Bruch** (see profile on this page), **Harriet Edelman** and **Randy Mott**, all of whom have been tapped for board positions because of their IT experience.

Szygenda was nominated for his "extensive understanding, experience and leadership of business processes and information systems," says Stephen Strome, chairman and CEO of the music and video distributor, in a release announcing Szygenda's appointment.

Not to be overlooked in this hubbub of high-profile names and companies is **Marty Chuck**, vice president and CIO of HP spin-off Agilent Technologies. ServGate Technologies recently elected Chuck to serve on its board. The security gateway provider must have been impressed by his transformation of Agilent's IT department, which reduced operational costs by 23 percent in 18 months and freed up resources for new systems investments.

## Austin Adds Duties

When we last met **Karen Austin** (see "On the Move," July 1, 2002), she had just won the CIO's job at troubled retailer Kmart. Now she's



Karen Austin

added advertising and marketing to her list of responsibilities as senior vice president and CIO of Kmart. Austin takes those duties from Barbara Firment, who left her

position as senior vice president of advertising, sales and in-store presentation for the beleaguered retailer last June. Austin joined Kmart in 1984.

In other retail news, casual clothes seller Aeropostale hired its first CIO. **Ann Joyce** was CIO of Leslie Fay before joining Aeropostale and from 1996 to 2002 worked for Polo Ralph Lauren. At Polo, she introduced a methodology for tracking and monitoring the return on technology investments.

## You Say Good-Bye, I Say Hello

**Ed Glotzbach** bade farewell to his colleagues at SBC after 33 years with the company. Glotzbach, who started as a traffic supervisor and was most recently executive vice president and CIO of SBC Operations, retired last June. John Stankey, president and CEO of SBC Southwest, took over the CIO post.

On the other side of the Mississippi, telecom carrier US LEC appointed **Tom Fabbriatore** as senior vice president and CIO. Fabbriatore joined the company after a 20-year tenure with CTC Communications.

## PROFILE: LUCENT CIO JOINS MELLON BOARD

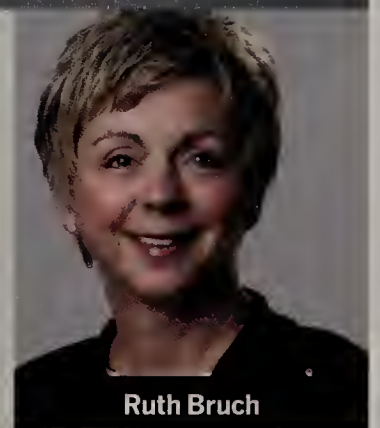
**RUTH BRUCH** has always been interested in a boardroom position, and recent corporate scandals haven't dampened her enthusiasm. So when she was approached about serving on the board of directors for Mellon Financial, she jumped at the opportunity. The 49-year-old executive joined Mellon's board in May.

Mellon was struck by Bruch's high-powered curriculum vitae (former vice president and CIO of auto supplier Visteon, former president and COO of Zonetradar.com, former vice president and CIO of Union Carbide, and 17 years in financial services)—not to mention the yeoman's work she has done restructuring Lucent Technologies' IT department and helping dig the company out of bankruptcy. Since joining Lucent in April 2002,

she's managed to lower IT costs by more than 35 percent by reducing staff, negotiating better maintenance and licensing fees, and eliminating redundant processes.

One process she overhauled was the manner in which Lucent prioritized IT projects. Before her restructuring, Lucent's organizational units went to IT with requests for projects, and IT would do them based on its ability to fund the project. Today, a council of "work process owners" reviews IT project requests and prioritizes them based on business need and impact.

Bruch also instituted a project management methodology that includes weekly meetings where members of the project teams review project milestones, requirements, expectations and project management lessons they can apply to future implementations. "The nice part about being CIO is that I get a lot of constructive help from the employees and my peers about what would be helpful," she says. "People have not been reticent about coming to me and saying what they believe would be helpful."



Ruth Bruch



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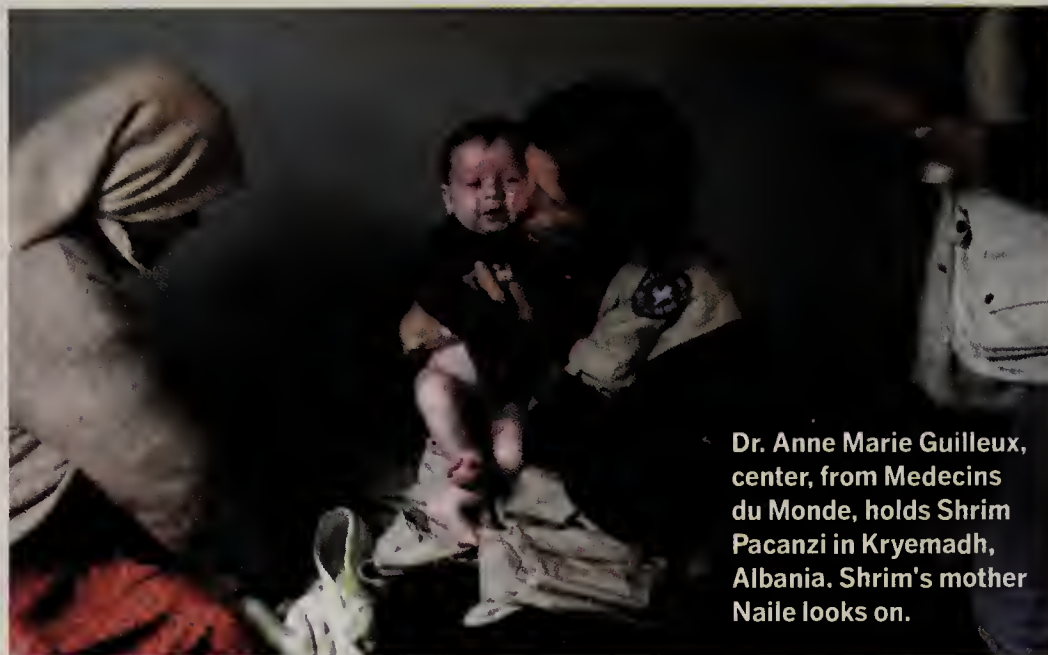
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# Doctors' Group Profits from ERP



Dr. Anne Marie Guilleux, center, from Medecins du Monde, holds Shrim Pacanzi in Kryemadh, Albania. Shrim's mother Naile looks on.

**VOLUNTEERS FROM MEDECINS DU MONDE** (Doctors of the World) rely on their commitment, brains and a limited pool of resources to treat the victims of war, famine and drought in 59 countries around the globe.

Back in Paris, CIO Catherine Duffau is expanding the aid group's reach. Duffau is finishing an ERP system installation to track Medecins du Monde's finances and give everyone a view of the group's supplies. When Duffau came to the aid group in 1999, its three IS employees oversaw disparate systems for purchasing, finance and accounting. "There was an urgent need to provide information and get people connected," says Duffau, 38. With an ERP system, Duffau reasoned, Medecins du Monde could collect precise data on doctors' needs and expenses.

Duffau chose the French ERP software maker Qualiact, familiar to European CIOs and best known for its ease of use—which was good for her volunteers. ERP giants such as SAP and Oracle would be far too expensive, she says, and were unwilling to negotiate on price for services.

Lack of integration is common at nongovernmental organizations, says David Sovie, a vice president at Mercer Management Consulting in Paris.

Smaller ERP systems can track donations and money available for missions.

So far, Duffau has accounting, purchasing, stock and investment records up and running on Qualiact, and offices throughout France have also logged on to the system.

While most far-flung volunteers aren't using it yet, one promising field test was in Ivory Coast where a rebellion in 2002 left thousands dead and more than a million homeless. When Medecins du Monde's volunteers there connected to the ERP system, they could quickly see how much had been spent on medication and other supplies, and could therefore plan to expand treatment when needed. More remote office tests are scheduled.

In areas such as war-ravaged Iraq, volunteers rely on satellite phones when basic phone and Internet links are lacking. Still, volunteers coming out of such areas can enter data into the ERP system. Duffau doesn't have a firm ROI number for the system, but she says it has improved efficiency. Accountants are now paying bills from two months ago instead of four months. Duffau's goal: information in real-time. "Then we would know immediately when we had enough money to expand our missions."

—Susannah Patton

## This Date in IT History

Sep

### Grace Hopper's Bug Discovery

**1945** On **Sept. 9**, the Mark II computer system at the Computation Laboratory at Harvard University was on the fritz. The colossal calculator, which famously took up hundreds of cubic feet in the lab, was plagued by a mysterious glitch. When the team members, led by **Grace Murray Hopper**, a budding computer scientist from the U.S. Naval Reserve, open the computer for a closer look, they discover the first true computer bug.



Grace Hopper

Lodged between points in relay #70 in panel F was a 2-inch moth that had flown into the machine and caused the ruckus. While the term *computer bug* was part of computer users' vocabulary before 1945, Hopper and her team are credited with the discovery of the world's first computer bug and coin the phrase "debugging a computer program." This legend even helped one young man become a millionaire. In March 2000, 25-year-old Joe Trela correctly answers "moth" to the final question (was it a moth, roach, fly or Japanese beetle that shorted out an early supercomputer?) on ABC's *Who Wants to Be a Millionaire* to claim the \$1 million grand prize.

—Daniel J. Horgan

### Other Notable Events

3

The **PowerPC chip** arrives at Apple headquarters in **1992** and becomes the engine for the PowerMac, which releases in 1994.

6

The first plan for **packet switching technology** is proposed to ARPA in **1968** by a team of computer scientists at BBN. It later becomes ARPAnet and eventually the Internet.

8

"Electric Barbarella" by Duran Duran becomes the **first single to be released online** before hitting the stores in **1997**. Music lovers flock neither the Internet nor the stores.

11

**Kenneth Starr's report** on his investigation into the President Clinton and Monica Lewinsky affair is released online in **1998**. Between 3,000 and 5,000 people attempt to download the report each minute.

12

Marc Andreessen introduces **Netscape Navigator** in **1994**.

30

**Microsoft Excel** is released in **1985**.

SOURCES: CNN.com, SeyboldReports.com, PBS.org, U.S. Navy website, ABC News, JamesSHuggins.com, North County Times

A black and white photograph of a person rock climbing a steep, textured cliff face. The climber is wearing a light-colored t-shirt, shorts, and a climbing harness, and is secured by a rope. The background shows a vast, open landscape under a clear sky.

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# Tom Davenport | The New Work Order

Retrofitting the Knowledge Worker

## Big Offices Are Better

And other findings from the universe of productivity metrics

**IT'S PRETTY COMMON TO BEAT UP** on IT organizations for one reason or another. Yet when it comes to knowledge worker productivity and effectiveness, some IT people—particularly programmers—are the poster children of knowledge workerdom. In fact, some of the practices employed in IT are considered state of the art in enhancing knowledge work.

IT organizations are among the only knowledge work institutions on earth to measure productivity and processes, reuse assets, work collaboratively across organizations, and experiment widely with new approaches. IT's use of these approaches doesn't necessarily mean that productivity is higher than that of all other knowledge-intensive professions—and, of course, it's hard to compare across different types of work—but I think it's fair to say that IT is doing better than most.

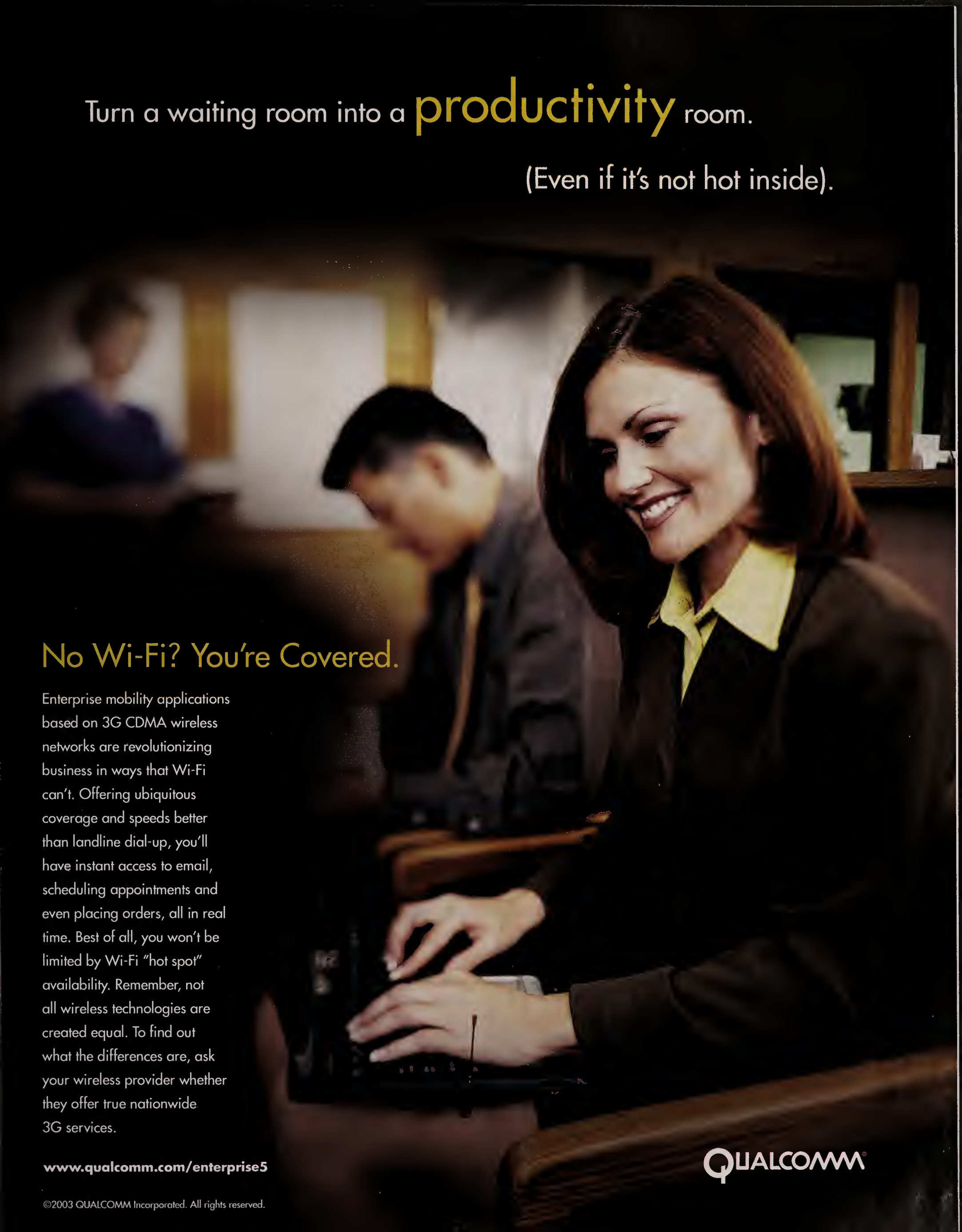
Take measurement, for example. As the cliché goes, if you can't measure IT productivity, you can't manage it. There are two domains in which IT measurement is relatively advanced: programming, and IT processes and capabilities. In programming, some organizations have measured for decades the production of either lines of code or function points, and various



researchers have analyzed the considerable variance in productivity. These measures aren't perfect, but they have allowed us to begin to understand differences across individuals. How many times have you heard that the best programmer is 10 times as productive as the worst? We may not know exactly how to bring everybody up to that high level, but we at least know the degree of variation—something that lawyers, doctors and (executive) chiefs can't measure nearly as well. By the way, one of my other favorite research findings is that programmers with bigger offices are more productive. Feel free to try that one out on your boss.

The other primary domain of measurement is the assessment of IT processes, particularly software engineering (but also software acquisition, people management and the development of software-intensive products). Thanks to the Software Engineering Institute and researcher Watts Humphrey, we

ILLUSTRATION BY GARY NEIL



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have an international standard for the quality of software engineering: the Capability Maturity Models. You've probably heard of these five-level models, against which thousands of organizations have been assessed (if you haven't, check out the CMM link at [www.cio.com/printlinks](http://www.cio.com/printlinks)). CMMs have been enormously influential in the offshore movement of software development to places such as India and China. The fact that there are many organizations certified at the top Level 5 CMM in India—more than twice as many as in the United States, unfortunately—has led many companies to send work offshore with confidence (see our outsourcing special report starting on Page 44). There is no similar global standard for other

sands of people across hundreds of organizations. And they don't even charge for their time, which makes for a very high level of economic productivity!

The final productive touch for the IT profession is the panoply of attempts to improve basic processes. This is sometimes described as making software development “a professional engineering discipline,” though I'm not sure how much we actually have to learn from other types of engineers. But not all improvement approaches are heavy on discipline and process. I gravitate toward “extreme programming,” which relies more on small-team dynamics and a culture of urgency than on a deep process orientation. Prototyping has been

another improvement approach that doesn't require an anal-compulsive nature to implement.

I have to say, though, that IT folks are not as productive as they could be. Some of the productivity approaches could have been adopted much more broadly.

Many IT processes can be measured, but aren't. Custom software reuse, as I've mentioned, has largely flopped. Some organizations still build their own systems when they could be using packages. And while the improvement approaches such as engineering and extreme programming receive a lot of publicity, many IT shops studiously ignore them.

Ironically, the productivity aid we have taken least advantage of is information technology. Sure, we use technology to develop and configure software, but we don't have software and hardware tools that are specifically designed to make IT more productive and efficient. Programmers' workbenches and computer-aided software engineering have largely gone the way of the dinosaur (for reasons that are complex, only partially known to me, and not what I want to write about in this column). And even though much software development takes place in teams, I don't know of many exceptional efforts at using collaborative software tools to help develop software.

In the past, adopting knowledge work improvement processes in IT was a good thing to do, but it's unlikely that anyone ever got fired for not doing it. Now, however, many IT people are battling with offshore providers to keep their jobs. Whether IT workers use all the productivity tools and approaches at hand will determine whether the work is done in Bangor or Bangalore. Fortunately, we have a head start compared with other knowledge workers, but we've got to keep running hard. **CIO**

Tom Davenport is a professor of IT and management at Babson College and an Accenture fellow. You can reach him via e-mail at [tdavenport@babson.edu](mailto:tdavenport@babson.edu).



## It's hard to compare knowledge work across different types of professions—but I think it's fair to say that IT is doing better than most.

forms of knowledge work capability, unless you count the ISO 9000 family of standards for manufacturing quality. Of course, the availability of a global standard cuts both ways: It means that knowledge work will flow to where it is best and most cheaply done, and that may well be outside your company or country. But it's a great yardstick if you want to get better.

Then there's asset reuse. IT organizations are among the best of a bad lot in this regard. Knowledge workers generally create knowledge from scratch, rather than modifying or reusing previous efforts. In IT, we've replicated this bad practice in the reuse—or lack thereof—of custom code. Remember when everyone was going to reuse objects from an object library? But it's never really taken off in a big way.

Why do IT people get so much credit for asset reuse? The answer is: packages, my friend, packages. Our profession has made great use of software packages, and it has bumped up our productivity enormously. Imagine if people had to write their own accounts payable systems, database management systems or word processor systems? That's the way it used to be in IT, and it's still the way it is for most other types of knowledge work. Lawyers have only recently begun to sell legal advice in reusable packages. Doctors and engineers still don't.

IT people sometimes become more productive by leveraging the efforts of others, both inside and outside their organizations. Most good software architects attempt to break up work so that multiple people can work on different parts without getting in each others' way, like a big architectural and construction project. But IT people are most impressive in their collaboration when they work across organizational boundaries. Take Linux, for example, which was developed by thou-



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# Jack Keen | Real Value

Practical Counsel for Capturing IT Value

## Don't Ignore the Intangibles

Even benefits that are hard to quantify can be an important part of a successful business case

**WHEN IT COMES TO ADDING** muscle to business cases, there is an unjustified fear of measuring what are considered intangible benefits. But a more astute handling of intangibles—those goals that can't be easily measured in dollar terms—can provide a big boost. Too often, eligible but soft potential benefits are not assessed as valid results. To help your business cases be as strong as possible, here is a closer look at how to maximize the inherent power of intangibles.

One reason that intangibles deserve more respect is that they are now a significant part of a business's worth. More than 25 percent of the value of enterprises is now based on intangible assets, such as brand image and market share, according to economists. But decision-makers have not yet accepted this financial reality. Burned by failed project implementations, and noting that such projects had a heavy dependence on intangible benefits, they jump to the erroneous conclusion that all intangibles are bad. Unfortunately, when business cases are devoid of intangible analysis, projects vital to the enterprise go unfunded because intangibles can't add to the hard number ROI. Strategically marginal projects showing a high ROI (often because the investment



is small) get the money. Such misguided project investments can undermine critical strategic goals, such as improvement of market share and sharpening of competitive advantage.

The first step in fighting that and getting the proper respect for intangibles is to clarify terms: When used in business cases, intangibles are IT investment payoff areas not expressed in monetary ways. "Less frequent use of temporary workers makes hourly employees feel better" is intangible if no believable dollar impact is shown. Conversely, "Less frequent use of temporary workers will save \$100,000 annually in labor costs" is tangible when expressed in believable dollar terms.

Here are three dangerous myths that undermine our quest for delivering value.

### Myth No. 1: Intangibles Always Remain So

A major reason why intangibles are held in disrepute is that

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they shouldn't be intangibles in the first place. In my experience, as much as 75 percent of the intangibles cited in business cases could have been converted into tangibles. Here are three examples of ways to flip these "false intangibles" into brawny goals: 1. Follow the data; 2. Ask those who know; and 3. Find the cause of silence.

"Follow the data" means uncovering hidden tangibles' payoffs by looking at better decisions available to users of new, improved information. For example, a CFO I know found more than \$1 million in savings from an improved financial system only when someone pointed out that many store managers were

important worth should be central to a business case, even if they aren't easily quantified.

### Myth No. 3: Good Decisions Consider Only the Facts

People who claim their decisions are made "solely on the facts" are expressing hope, not reality. A core skill of senior managers is the ability to make the right decisions in the face of less than factual (for example, intangible) information. The only issue then is whether, at the time of decision making, the use of intangibles is going to be hidden under the table or brought into the light of day. In this era of stronger corporate govern-

nance, where visibility of internal decision making engenders stakeholder confidence in management, the latter is definitely better.

Another way to improve our chances of flipping intangibles into tangibles is to better understand the building blocks of easily measured factors. Read on for tips on how to do this.

## When business cases are devoid of intangible analysis, projects vital to the enterprise go unfunded.

compensating for out-of-date sales figures by over-scheduling expensive discretionary labor on the store floors.

Another way to convert false intangibles to concrete measurements is to "ask those who know." By this I mean to uncover often obscure systems benefits known only to those who live the process every day. I met a manager who was determined to justify an improved, although expensive, process for better logging operations in the South. Many people considered such an investment too soft to quantify. Believing otherwise, he traveled more than 1,000 miles to interview logging crane operators on the job. The impressed logging operators bared their souls to reveal major, undiscovered costs the new system would alleviate—such as poorly scheduled hauling vehicles, which reduced the crane person's productivity through no fault of his own.

A search for the "cause of silence" also provides intangible to tangible conversion possibilities. I once advised a West Coast services organization on value discovery. A manager noticed that the rental cost for construction equipment was skyrocketing while at the same time few requests were being made for identical machines sitting idle in enterprise warehouses. A short investigation later revealed that the construction crews were unaware of the warehoused equipment. A more accurate and timely capital assets system was quickly justified and put into place. In that example, the original intangible benefit was "a new asset management system will help us track our assets better." Flipping this intangible over to concrete measurement status occurred by eliminating unnecessary rental costs.

### Myth No. 2: Intangibles Have No Worth

Many things in our economic life are both highly valuable and quite intangible—the value of the Coca-Cola logo and Wal-Mart's image with Wall Street come to mind. Factors with an

### Using Building Blocks to Convert Intangibles to Tangibles

Tangible business case building blocks typically contain factors such as premise, formula, metrics and reasoning. Often intangibles can be converted by strengthening weak components:

**Premise.** Avoid controversial premises entirely. For example, a vision that "we will lead our industry in innovation" could be a premise for quantifying the value of a system that enhances new product development.

**Formula.** Look for other formulas related to the same benefit area. For example, suppose a formula that calculates the value of customer satisfaction based on increased gross revenue is in the business case. If that is too uncertain, instead calculate savings based on a reduction in customer turnover, computing the higher expense of replacing a lost customer.

**Metrics.** Be creative at finding sources for information. Interview customers, employees, partners, suppliers and industry analysts. Search for Internet studies. The reality: Informed guesstimates drive much of industry's success.

**Reasoning.** One of the best bosses I ever had told me, "I don't care *what* you are recommending, just *why* you are recommending it." He focused me on being precise in my logic ("If this occurs, then this happens because...."). **CIO**

Jack Keen is the president of The Deciding Factor ([www.decidingfactor.com](http://www.decidingfactor.com)) and coauthor of *Making Technology Investments Profitable: ROI Road Map to Better Business Cases*. He can be reached at [jack\\_keen@compuserve.com](mailto:jack_keen@compuserve.com).





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# BACK

As a growing number of IT jobs move overseas, some CIOs and

## A SPECIAL REPORT

### Offshore Outsourcing

The Politics  
Page 44

The People  
Page 55

The Money  
Page 60

A CIO at a famous Fortune 100 manufacturer has a recurring nightmare: As he continues to lay off American IT workers and move their jobs offshore to places such as India, never to return, American public opinion suddenly swings violently against globalization. He and his company are demonized, and Americans boycott his company's products. "Public perception isn't always accurate, but it counts for a lot of things," he says, after insisting

# LASH

economists prophesy a political storm against offshore outsourcing

BY CHRISTOPHER KOCH

on anonymity. "We don't want a situation where the public sees us as a malevolent force and takes it out on our products."

Other CIOs are becoming similarly cautious about publically endorsing offshore outsourcing. Of the dozen CIOs contacted for this article, only two agreed to talk completely on the record. Though all believe that the

offshore outsourcing trend will continue, some are privately worrying about carrying out the inevitable in a sick economy and wondering if it isn't happening too quickly.

It's not hard to find reasons for CIOs to worry. "Do you want to do business with companies that take away jobs for U.S. citizens by outsourcing work to foreign countries?"

#### Reader ROI

- ▶ Why you should be concerned about a backlash against globalization
- ▶ What you can do to make sure your own employees don't revolt
- ▶ Why government visas encourage offshore outsourcing

asks The Organization for the Rights of American Workers (Toraw), a group of displaced, angry American workers laid off by Connecticut insurance and financial services companies. In June 2002, dozens from Toraw and similar groups from across the country held a two-day demonstration outside the Strategic Outsourcing Conference at the Waldorf Astoria hotel in New York City. The same month, other laid-off workers demonstrated outside an outsourcing conference at the Hynes Convention Center in Boston.

Organized labor protests at IT conferences in the United States? Even two years ago the idea would have seemed absurd. But as IT employees see many of their jobs moving overseas in a bad economy, opposition to globalization in the United States, hidden during the good economic times of the '90s, could reemerge more strongly than ever. IT companies—such as Accenture, IBM Global Services, Microsoft and Oracle—and mainstream Fortune 500 companies—such as American Express, Citibank, Bank of America, DaimlerChrysler, General Electric, Procter & Gamble, Prudential and United Technologies—are outsourcing to offshore IT companies or expanding their own development centers out of the country.

Some CIOs, like Joe Drouin of TRW Automotive, have experienced backlash against outsourcing inside their own companies. TRW began moving IT development work offshore to India four years ago, mostly through attrition and shifting contract work overseas. Drouin, who became vice president and CIO after the move

began, says he didn't do enough to clarify which jobs were going to stay in the United States and which ones would go. "We talked around that issue, and we didn't talk in black and white," he says. "I think it was because we anticipated a negative reaction." He got it. Morale plummeted, and there was a lot of grumbling and dissatisfaction among the staff. "It was like a dark cloud hanging over everything we did," Drouin says.

Technology jobs are following a path well-trodden by the manufacturing industry, which sent millions of jobs offshore or

simply eliminated them in the past 30 years, contributing to a drop in the average wages of low-skill workers. Technology professionals will face the same kind of wage drop, and the work could go offshore much faster than manufacturing did, according to Matthew Slaughter, Dartmouth College's associate professor of business administration. "[IT work] will move faster because it's easier to ship work across phone lines and put consultants on airplanes than it is to ship bulky raw materials across borders and build factories and deal with tariffs and transporta-



**When TRW Automotive began moving jobs offshore four years ago, CIO Joe Drouin had to deal with backlash from employees who feared losing their jobs. As it turned out, Drouin was able to accomplish the outsourcing without laying off full-time workers.**

PHOTO BY DAVID BADITO

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OUTDOOR OUTFITTER  
OUTFIT ITS COMMUNICATIONS  
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tion.” Indeed, by the end of 2004, research company Gartner estimates, one in 10 IT jobs at U.S. IT companies and one in 20 at non-IT companies will move offshore.

Revving up the speed even more are temporary worker visa programs that allow foreign companies to relocate employees here in the United States to coordinate the offshore work. Opposition to these visas is growing; currently under consideration at the national and state level are a number of bills designed to limit them. Their passage would slow the movement of jobs offshore and perhaps force U.S. companies to bring some work back onshore (see “The Visa War,” this page).

Even if such legislation is passed, many observers expect the offshore trend to continue. And its long-term implications for the U.S. IT industry have some deeply concerned. As the bulk of technology work moves offshore, the deep, experiential knowledge that comes from coding applications and solving technology problems—

the soil of technology innovation—could move offshore with it. U.S. IT services companies don’t spend much on R&D, but they are still innovative because they build the U.S. technology infrastructure, says Ron Hira, chairman of the R&D policy committee with the U.S. branch of the Institute of Electrical and Electronics Engineers (IEEE), a nonprofit research and advocacy group.

“The reason [U.S. companies] can innovate without spending much on R&D is that they are learning each time they do an implementation,” he says. “You build up that knowledge in those workers, and there’s spillover as they move into other sectors, start new software companies or take a permanent job with a client. If we don’t have that knowledge base here, we will lose out on that innovation and spillover.”

TRW Automotive’s Drouin wonders where he will find his next rising stars in IT if he isn’t growing them internally. “It isn’t clear what the new entry-level job in IT will

be,” he says. “We haven’t eliminated all our developer jobs, but a good portion is gone. So where do you look for that superstar who is doing a great job and has a rapport with the customer and understands your business?”

## Jobs, Homes, Families

Inside an Elks Club lodge in an ugly strip mall in Wethersfield, Conn., a group of former IT workers are gathering. They have little in common besides the fact that they’re out of work, having recently been laid off by big Connecticut IT employers such as Cigna, GE, ING, Northeastern Utilities and United Technologies. The group at the meeting is a mix of male and female, young and old, though more have gray in their hair than not.

The aluminum-gated window that connects to the Veterans of Foreign Wars bar next door slams down, signaling the end of drink sales. Everyone squints with anticipation toward the front of the room, where

# The Visa War

Government restrictions on temporary work visas might slow the stampede to offshore outsourcing but would not curtail it altogether

**G**lobalization of the IT labor force may be an inevitable trend, but there’s no question that it is getting a shot of adrenaline from the U.S. government in the form of temporary worker visas known as L-1 and H-1B. Foreign outsourcing companies use these visa programs to bring employees into the United States to coordinate work back home. And that has critics in a fury. “This is not a natural economic process,” says Ron Hira, chairman of the R&D policy committee with the U.S. branch of the Institute of Electrical and Electronics Engineers (IEEE), a nonprofit research and advocacy group.

“Much of the offshore outsourcing going on today is based on U.S. government regulations that encourage it.”

Both visas were introduced at times when U.S. companies were short on skilled labor and needed foreign help. H-1B allows companies to bring in skilled, college-educated workers in certain “specialty occupations” that include everything from IT and law to fashion modeling. Workers must be paid U.S. prevailing wages for the job and cannot replace an American worker with the same skills and knowledge. The L-1 visa is much broader. There is no salary

requirement and no explicit ban on replacing American workers, just a need to be functioning in a “managerial or executive capacity” (L-1A visa) or have “specialized knowledge” of the company’s products or business operations or processes (L-1B). L-1 visa holders can stay in the United States up to seven years and six for H-1B holders.

Undoubtedly, when Congress approved these visas, it did not envision that they would pave the way for offshore outsourcing. Yet that’s exactly what they do. Foreign outsourcing companies—today, mostly Indian companies—establish a local U.S. presence and apply

for H-1B and or L-1 visas to bring employees into their offices. Most are immediately farmed out to U.S. outsourcing clients where they are trained in the jobs they will do before returning home, according to Hira. Others—typically 10 percent to 30 percent of the total staff—remain here for a longer term and act as liaisons between the U.S. client and the employees doing the coding back in the foreign country. If those liaisons are brought in on L-1 visas, they can be paid prevailing wages for an IT project manager back home, which in India can be anywhere from \$10,000 to \$25,000, according

John Bauman, president and cofounder of Toraw and himself an unemployed IT manager, shouts over the blasting air-conditioning system to bring the meeting to order.

"This is about our jobs, our homes, our families," he tells the group.

His speech, and that of the other Toraw officials, rambles. Bauman admits that the group hasn't quite found its direction yet. But on one point Bauman and the other leaders of Toraw are clear: While pointing out that their group does not oppose immigrants or immigration, they rip into the H-1B and L-1 visa laws, saying both programs are being abused and have created a rise in illegal immigration.

These foreign workers are the focal point of most Toraw members' anger. Frustration boils over a few times at the meeting. "How active are you going to be?" demands an angry man in

to various estimates.

The L-1 visa, in particular, gives foreign outsourcing companies an artificial competitive advantage over their U.S. competitors, critics say. They can afford to bid low-wage rates not only for employees back home in India but also for managers based in the United States, something that U.S. companies—even if they have an office in India—cannot do, unless they hire foreigners and bring them over to the United States on visas. "These companies can underbid based on L-1 and win business they wouldn't normally win," says IEEE's Hira.

Unfair? Maybe. Illegal? No, says Robert Charles Hill, an immigration attorney in Miami. It's legitimate as long as the L-1 workers are functioning as proj-

his early fifties. Another calls visas "a tool of the devil" and goes on to excoriate the "corporate greed of CEOs that is ruining this country." A woman questions the strategy of going after H-1B and L-1 visas. "I see offshoring as more of a threat than H-1B or L-1," she says. "Whole departments are going offshore. What do you propose? Taxes? Tariffs?"

"Taxes, tariffs and reporting every foreign nonimmigrant worker onsite in Connecti-

cut companies," promptly responds James Pace, Toraw's vice president.

A man in the audience fumes that offshore outsourcing has the potential to wipe out the middle class. "Are our legislators aware of this?" he asks.

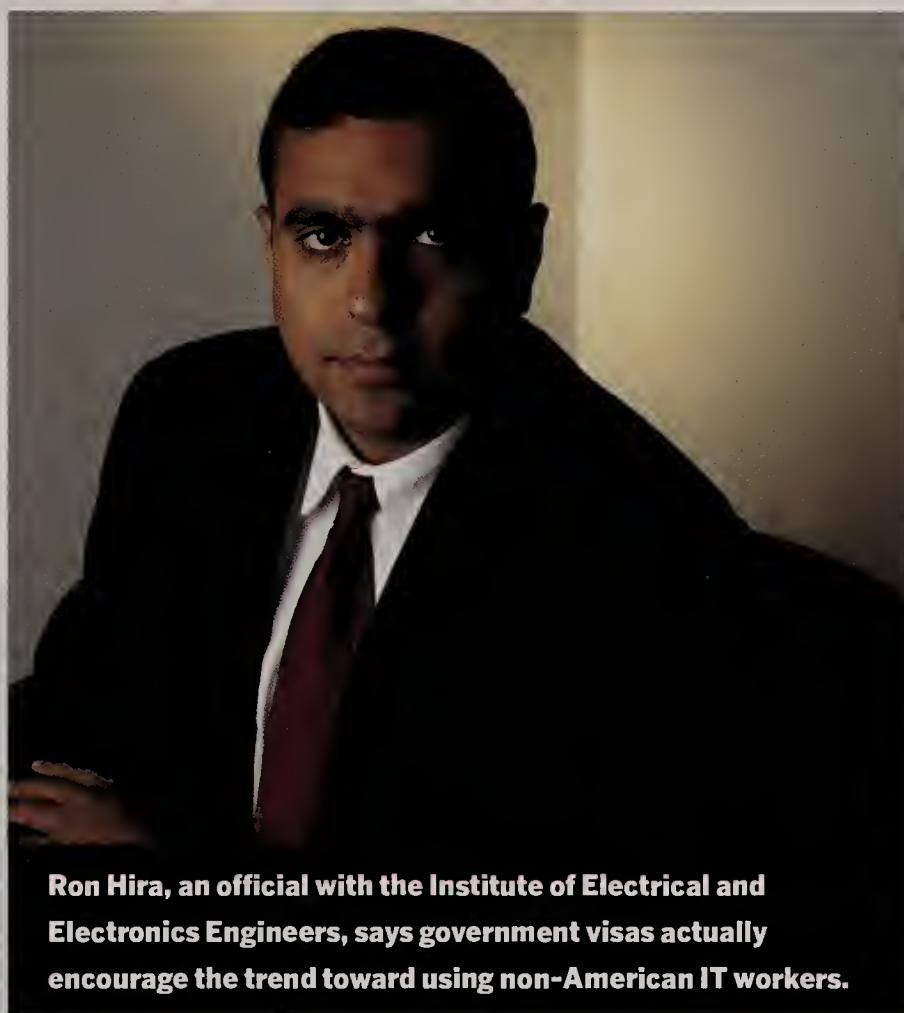
Of the three Connecticut legislators who have sent representatives to the meeting, only one representative speaks: Mark Stephanou, director of constituent services from U.S. Sen. Christopher Dodd's office. He doesn't

have anything conclusive to say, either. "We are as concerned about jobs as you are," he offers. (Later, Dodd became a sponsor of a bill in Congress to limit the L-1 and H-1B visas.)

Toraw describes itself as a grassroots movement, not a union. But some say that if the outsourcing trend continues, a white-collar labor movement could arise. This time, the struc-

introduced to Congress, but both were still in committee at press time. A handful of states including Connecticut, Maryland, Missouri, New Jersey and Washington have proposed bills limiting offshore outsourcing.

Of course, even if the visas are curtailed, it probably will not stem the long-term trend toward IT labor globalization. Trade agreements between the United States and foreign countries could trump the legislation. Last May, for example, President Bush signed a Free Trade Agreement with Singapore, a small but growing IT outsourcing destination, that would allow workers from Singapore to work in the United States without salary restrictions or limitations on the length of time they could remain here. —C.K.



**Ron Hira, an official with the Institute of Electrical and Electronics Engineers, says government visas actually encourage the trend toward using non-American IT workers.**

ect managers or have specialized knowledge of their companies' products or business processes.

If the temporary worker visa programs are curtailed, it could force offshore outsourcing companies to completely rethink their current business models. Some CIOs experienced in offshore outsourcing say that if foreign managers are prevented from entering the country on L-1 and H-1B visas, projects with their offshore outsourcing partners would col-

lapse and they would be forced to bring at least some of the work back home. "If these visas went away it would cripple things in the short term," says Joan Conway, global solutions manager of managed services for outsourcing company Fujitsu Consulting.

Visas are the pressure point that opponents are using on legislators at the state and federal level to try to stem the tide of offshore outsourcing. Already, two bills to limit visas to varying degrees have been

ture would be completely different than the traditional blue-collar labor unions (think Internet rather than union hall).

"I believe that some sort of e-labor movement is going to rise in IT," says Maria Schafer, program director for Meta Group. Indeed, the Internet is already the preferred meeting place for disaffected IT workers. Marcus Courtney, president of Washtech, one of a handful of unions that serve IT exclusively, says his membership is only about 250, but the number of subscribers to his e-mail newsletter went from 2,000 at the beginning of 2003 to 14,000 in June. Dozens of websites such as Toraw's have sprung up on the Web, many with an anti-visa or deeper anti-immigration theme.

Opponents of offshore outsourcing ignore the large benefits that it brings to the U.S.

economy, says Sunil Mehta, vice president of the National Association of Software and Service Companies (Nasscom) in India. Mehta estimates that U.S. companies will save up to \$11 billion in 2004 by outsourcing to India and that India will purchase \$3 billion in high-tech imports from the United States in that time. "I think it is really a two-way mutually beneficial argument," he says. "If IBM is able to lower its cost structure, the U.S. economy benefits as a whole."

Mehta argues that trade protectionism has not helped other American industries such as the steel industry, where employment has declined 80 percent since its peak, he says, nor has it helped steel consuming industries in the United States that were forced to pay high prices for steel. "At the individual U.S. IT employee level, I do not

have any answers," he says, "but if you look at it in a total economic perspective, it is mutually beneficial."

## Gone for Good

It's tempting to write off the threats of offshore outsourcing. The economy will improve, IT workers will find new jobs, opposition to offshoring of U.S. jobs will melt, and all will be well. Or offshore outsourcing will never mature to the point where anything but the most basic development work and maintenance will go offshore. That's what some economists like Robert Reich think. According to various analyst company predictions, only about 10 percent to 20 percent of IT jobs will go offshore.

Anyone who subscribes to this soothing theory risks getting blindsided. The trend will continue (unless the U.S. government intervenes) because the apparent cost advantages are simply too seductive. According to a May 2003 survey by *CIO*, 68 percent of the more than 100 IT executives who responded said their offshore contracts will increase this year. Only 30 percent foresaw no change.

"The primary benefit to moving IT offshore is cost, and the only thing that's holding it back is building up the capabilities offshore to do the work," says IEEE's Hira. "So unless you could come up with a way that markedly advances U.S. workers productivity so that they could produce a higher-quality product faster than they do today, there is no economic incentive to keep the work here."

In other words, this isn't like the old days, when the local factory used to lay off workers during a lean spring and hire them back in the fall when demand picked up again. The IT jobs that are going offshore are going there for good. It's what economists call a structural, as opposed to cyclical, change in the labor market. And if costs in India—the primary center of offshore IT work today—begin to rise, the work will move to other cheap offshore locations, such as China.

The trend toward offshore outsourcing has only just begun. Indeed, in the *CIO* survey, 67 percent of respondents did not begin

# What CIOs Can Do

If you have to outsource jobs offshore, here are six ways to minimize the destructive impact on your workforce

**1. WHITTLE, DON'T HACK** Successful offshore outsourcing takes time—at least two to three years, say experts—so use that time to cut your U.S. workforce through attrition rather than layoffs.

**2. OFFER TRAINING** CIOs owe it to their staffs to give them an opportunity to become the kinds of employees whose jobs won't be outsourced offshore, at least in the short term. Offer training classes in less transferable skills such as requirements analysis, architecture planning, business process design, contract management and business relationship management.

**3. FIND OUT WHO WANTS TO LEAVE** Employees may not always want to keep their jobs. Perhaps they're close to retirement or are desperate to leave but just haven't done it. Ask for volunteers before you start cutting.

**4. COMMUNICATE** Employees won't like you if you tell them their jobs are going to be outsourced in a few months. But they'll hate you if you don't tell them. Hate has more long-term implications for you and your company than dislike.

**5. DON'T HOLD BENEFITS HOSTAGE** Employees who are forced to train their offshore replacements to receive severance pay feel humiliated and angry. Find another way to get foreign workers up to speed if you can.

**6. LOBBY FOR CURRICULUM CHANGES** Colleges need help to change their curriculums to make IT graduates more prepared for global competition. Call university faculty and tell them what you see happening.

—C.K.

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offshore outsourcing until after 2000. Offshore outsourcing is just beginning to hit the mainstream, with 80 percent of companies saying they will discuss it in 2003, according to Gartner.

Until now, offshore outsourcing has been mostly limited to large companies that have big chunks of work to send offshore (the coordination expenses were too high to make small projects cost-effective). But as the offshore outsourcing companies have matured, so have their processes. "Many of our clients are now starting projects with five people," says Peter Harrison, CEO of Induslogic, a global outsourcing company.

As more jobs move offshore, the work will move higher on the IT food chain. Indeed, it already has. The CIO survey found that 11 percent of the companies had outsourced system and architecture planning offshore, and 14 percent had outsourced research and development—two categories that analysts and chief information officers have predicted would never leave these shores. "When people say there is IT work that can't be done offshore, I disagree; it just takes longer to move the more complex work offshore," says Atul Vashistha, CEO of Neo-IT, an outsourcing advisory company.

## The Dilemma for CIOs

When low-skilled manufacturing work left these shores beginning in the 1970s, the U.S. economy reabsorbed those workers into other areas of the economy—primarily in the services sector, says Dartmouth's Slaughter. It's this reabsorption effect that leads the majority of economists to believe that global

competition is ultimately good for the U.S. economy. Manufacturing companies in the United States are now more productive than they were before they faced international competition. Higher productivity per worker means more corporate profits and higher salaries on average, as long as the workers being displaced can be reabsorbed into the economy somewhere else.

Even if workers are reabsorbed, however, it doesn't necessarily mean they will be better off. Low-skilled workers make less in real dollars today than they did in 1973. Now

that white-collar jobs are coming under the same global competitive pressure, the same effect on wages may be felt at the managerial level. "In the past, the distributional impacts from global competition were pretty clear," says Slaughter. "The more-skilled guys are going to benefit from more global engagement, and the low-skilled guys aren't. Now it's more of a grab bag."

Experts don't see a "white knight" industry that will come along to do for IT workers what the services sector did for displaced manufacturing workers. Other high-skilled



**Jeff Campbell, CIO of Burlington Northern Sante Fe Railway, sees offshore outsourcing as an inevitable trend that needs to be embraced to build a truly global economy.**

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fields are also under pressure from international competition—accounting, engineering and architecture are already feeling the same kind of pressure as IT. As competition for skilled service jobs in the United States increases and low-cost options increase offshore, white-collar wages could begin to drop across the board. Economic statistics show that when people change jobs because of global competition, it usually involves a decline in wages, at least initially.

Even so, many CIOs see the move offshore as inevitable.

“You can fight global trade with tariffs, but long term it just doesn’t work,” says Jeff Campbell, vice president of technology services and CIO of Burlington Northern Sante Fe Railway. The company has outsourced 40 percent of its development work to the Indian company Infosys. Campbell

that says you looked for Americans to do the work and you didn’t find them,” he says. “And I say, ‘Get out of here. That’s a lie. I won’t do it.’ And they say, ‘OK, OK,’ and somehow it becomes a nonissue.”

That CIO feels guilty, but he is insulated from the ethical and legal implications of the visa issue, indeed from the entire transition to offshore—as is his company. Its executives simply are not involved, except to make the decision in the first place. They hire an outsourcing company, and the outsourcing company takes care of all the messy immigration and work transition issues. Nor is there the kind of visible drama to the IT move offshore that there was during the manufacturing transition, when major plant closings made the news. The movement of IT jobs offshore is happening quietly, almost imperceptibly. And if the economy continues

take the place of ones with jobs being sent overseas. Dartmouth’s Slaughter, for one, advocates that the government focus on easing job transitions for white-collar workers by making pensions and insurance more portable across jobs, and offering tax credits for older employees who want to relocate to find a new job or go back to college for retraining.

If IT employees want to stay employed in this new era, they must be willing to accept lower wages, change jobs more frequently, relocate when necessary and consider going back to school to gain new skills.

“I don’t have a ready answer for what we do in IT after we send these jobs offshore,” says TRW Automotive’s Drouin. Even so, he feels he has no choice but to continue with the offshore strategy—it saves his company a great deal of money.

**“I DON’T WANT to wake up one day and find that American IT has disappeared.”**

—FORTUNE 100 CIO WHO IS CONCERNED THAT OFFSHORE OUTSOURCING COULD SABOTAGE THE U.S. TECHNOLOGICAL EDGE

says that he was able to achieve the employment shifts without layoffs, mostly through attrition.

“You have to meet cost challenges or you won’t provide shareholder returns,” Campbell adds. “We are intertwined with the global economy now, so the question is how to embrace that and move it forward.”

This is not to say that CIOs don’t have ethical qualms about what they see going on inside their departments. The CIO from the previously mentioned Fortune 100 manufacturer sounds as angry as the displaced workers at the Toraw meeting when the discussion turns to temporary work visas. He says Indian contractors consistently abuse the requirement that they first look for a suitable American to fill the job before bringing in an Indian on a visa. “Every now and then one of the big [Indian] companies comes to me and says, ‘Before you sign the contract, we need you to sign an affidavit

in the doldrums, few new jobs will be created to replace them.

The government is not prepared to deal with the prospect of millions of highly educated, well-paid white-collar workers hitting the unemployment rolls for extended periods of time. Universities are focused on educating young people, not older workers who need to retrain themselves for a new white-collar occupation after years in the workforce. Even economists who support globalization agree that the transition for white-collar workers in the coming years will be difficult until new industries arise to

However, the Fortune 100 CIO who has that recurring nightmare is worried that it’s too easy for companies like his to outsource overseas today. “Look, I can’t wake up tomorrow and decide I’m going to move to Italy and get a job,” he says. “So why should someone from another country be able to come here on a temporary visa and take jobs from Americans? There are people who say open everything up. That’s one world view. Another view is you bring people in to the extent that you can assimilate them, and that they build on the society rather than disrupt the society.

“I don’t want to wake up one day and find that American IT has disappeared.” **CIO**

#### Share Your Opinion

**How Have You Minimized Outsourcing’s Destructive Impact?** Going offshore may be an inevitability, but it is possible to ward off the backlash. Go to the **ADD A COMMENT** box at the end of the online version of this article to post your advice. Find the link at [www.cio.com/printlinks](http://www.cio.com/printlinks).

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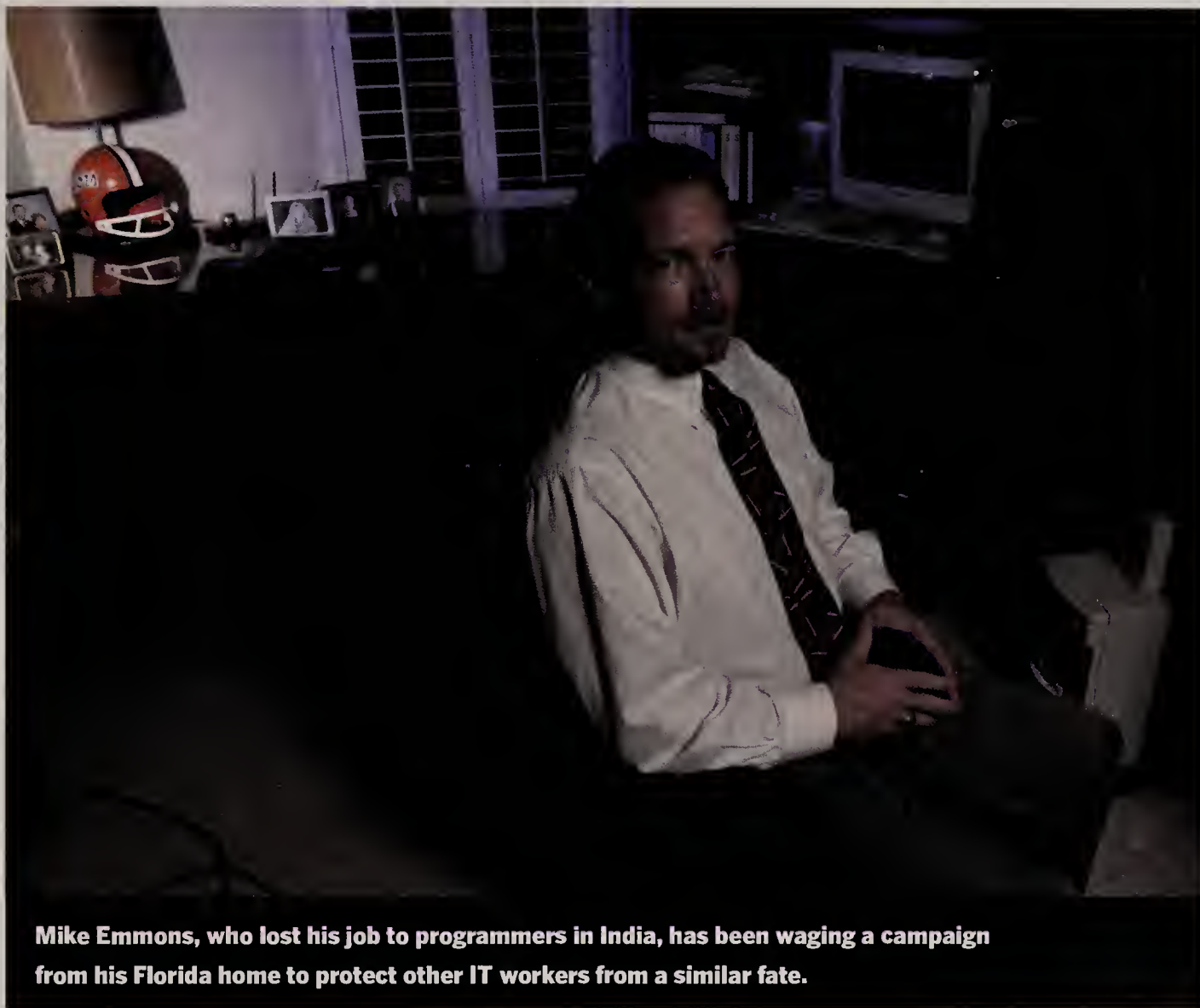
Do you have opinions about the impact of globalization on the IT workforce? Tell Executive Editor Christopher Koch at [ckoch@cio.com](mailto:ckoch@cio.com). Senior Writer Stephanie Overby and Staff Writer Ben Worthen contributed additional reporting to this story.

# The Radicalization of Mike Emmons

Until he was laid off by a company moving jobs offshore, Mike Emmons rarely voted. Now the computer programmer is considering a run for Congress.

BY BEN WORTHEN

**L**ongwood, Fla.—Mike Emmons' home office doesn't look like much: just a desk, some shelves littered with books, a couple of computers, a server, a printer and some other gadgets. But for the past 11 months, it's been headquarters for a ferocious one-man campaign against the practice of offshore outsourcing and supplanting American workers with foreigners on temporary work visas. Emmons lost his programming job last winter when his entire IT department at Siemens Information Communication Networks (ICN) was outsourced to an Indian company. Until last year, the University of Florida graduate rarely voted; now he plans to run for Congress ("I'll probably lose," he concedes). During the past year, Emmons has made himself an expert on labor policy. He has harassed corporate executives, gotten him-



**Mike Emmons, who lost his job to programmers in India, has been waging a campaign from his Florida home to protect other IT workers from a similar fate.**

self on television and is one of the main reasons that legislation reforming the L-1 visa was introduced in the U.S. House of Representatives in May.

"They took my job; they took my livelihood," he says, with a crisp cadence that barely hides his anger. "You don't do something like this to someone and expect them to turn a blind eye."

The radicalization of Mike Emmons provides a personal window on the growing backlash against the offshoring of IT jobs

and importing of nonimmigrant temporary workers on H-1B or L-1 visas. (Read more about this trend in "Backlash" on Page 44.) This story could even be considered a wake-up call: CIOs beware; you might have a Mike Emmons on your staff.

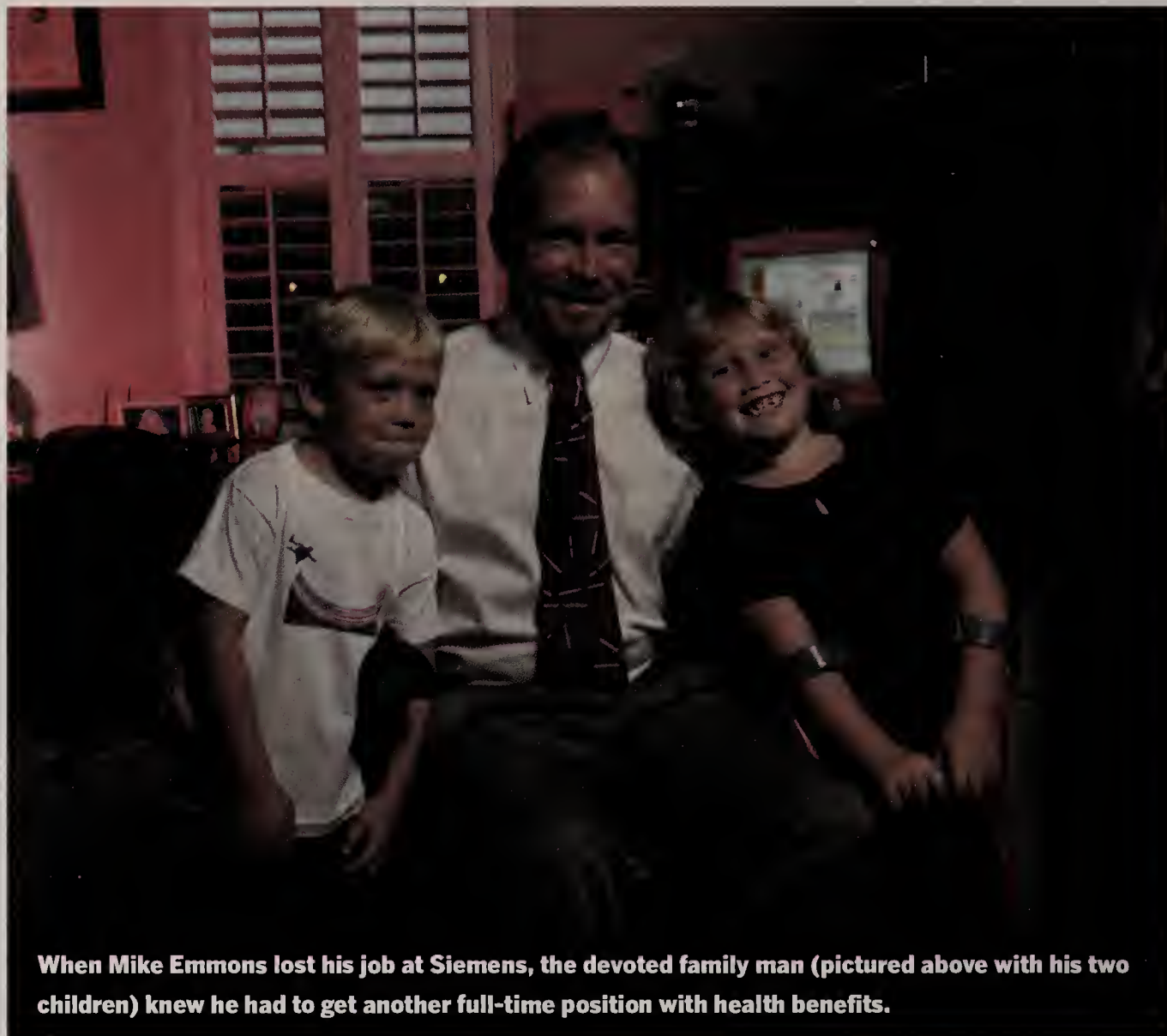
## Fighting Back

At age 41, Emmons is the type of programmer that companies used to dream about. Tireless and dedicated, he taught himself Cobol, 4GL, database design and Web pro-

gramming as the times demanded. In January 1997 he started working as a contractor for Siemens Business Communication Systems in California, earning \$90,000 a year. His office merged with the Lake Mary, Fla., division in 2000, forming Siemens ICN, in June, and Emmons and his family moved back to the state where he had grown up.

On April 19, 2002, Siemens ICN told employees it was going to outsource its IT department and that they would all be laid off once the transition was complete. While the news was bad, none of the 20 employees was devastated; the layoffs wouldn't take place for a few months, and they figured that some of them would stick around as consultants. But in the last week of June, Siemens announced it had selected Tata Consulting Services, and by July 1 the office was filled with consultants—all from India—who would eventually take the Siemens employees' jobs. The American workers were offered severance packages as high as \$13,000 if they would train the Indians to do their jobs. (Siemens spokesman Bud Grebey says that only a handful of the company's 70,000 U.S. employees have been affected. "Our customers are big telecommunications companies, and telecom has been hit hard," he says. "We need to do things to make the business more efficient.")

Despite feeling betrayed, Emmons and the other laid-off workers did what was asked of them. The money was too good to pass up, especially when the alternative was immediate unemployment. Meanwhile, training the replacement workers proved challenging. According to Emmons and other ex-Siemens employees, some of the Tata consultants had only two weeks of preparation before they arrived. This raised a red flag for Pat Fluno, a now ex-senior systems analyst who started inquiring about



**When Mike Emmons lost his job at Siemens, the devoted family man (pictured above with his two children) knew he had to get another full-time position with health benefits.**

the visa status of the replacement workers.

On Aug. 15, Fluno sent a letter to her U.S. representative, John Mica, asking him to investigate a situation she thought was illegal. "An L-1B visa is for a specialist knowledge worker who has in-depth knowledge of the company's products, policies and procedures," she wrote. "It is not meant for generic skill sets, such as computer programming, but for skills specific to the sponsoring company. If these people were brought over on L-1B visas, it is an attempt to avoid the strict [Department of Labor] laws regarding displacement of Americans."

Fluno showed Emmons this letter. "That's when it hit me," he says. "Something has got to be done. I said to myself, I can fight this and get caught and lose 12 weeks pay, or I can get paid for 12 weeks and never work again."

Fluno was laid off 15 days later. For Emmons, whose termination date was Dec. 20, the battle was just beginning. He

called and e-mailed Mica's office almost daily and distributed fliers about the alleged visa abuse throughout his neighborhood. In late September, he received a phone call from Mica in which the representative assured Emmons he would try to help and that he would make inquiries with the INS, now known as the Bureau of Citizen and Immigration Services. On Oct. 11, Mica sent a letter outlining the situation at Siemens to Secretary of Labor Elaine Chao. Emmons put a sign supporting Mica in his front yard and voted for him in the November election.

Then, Emmons says, nothing happened. According to the Center for Responsive Politics, a Washington, D.C., campaign finance watchdog organization, Mica received four donations totaling \$3,999 from Siemens between the time Emmons first contacted him in August and the November election. Emmons, who was still training the replacement workers at Siemens, was livid when he learned this. By the time he resigned to



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take another position on Nov. 24, just weeks before his termination date, he concluded that he had to fight not just the corporations that were replacing American workers but also the government.

Two days after he quit, Emmons drove to Mica's house and hand-delivered a letter to the representative's wife in which he accused Mica of sacrificing American jobs for corporate donations. He also contacted congressional aides, and when none of this produced any legislation, he went to the media. In mid-February, Orlando television Channel 6 ran a series on Florida workers who had lost their jobs to offshoring. The channel interviewed Mica and then revealed his voting record, which has consistently supported raising visa caps and loosening visa restrictions.

Gary Burns, legislative director for Mica, says the Florida congressman has done plenty for laid-off workers: In addition to bringing the Siemens case to the attention of the INS, Mica has called for a Department of Justice study on the issue and introduced legislation to prohibit bringing in offshore workers on L-1 visas. (For more, read "The Visa War" on Page 48.)

## A Guerrilla Campaign

Emmons has been equally aggressive in pursuing his former employer. While he maintains that he has nothing against either Siemens or the Indian workers who took his and his colleagues' jobs, he says, "I learned that I have to use this situation to expose

what's happening to Americans." At 5:30 in the morning on Jan. 14, 2003, he began what he calls his "e-mail bombing campaign." Knowing the Siemens e-mail administrators wouldn't be at work, he sent a message describing what had happened to him and his fellow employees to thousands of Siemens employees, including the executives in Florida and at Siemens AG's head-

quarters in Germany. (He had written a program to collect their e-mail addresses from the Internet and other documents.) In the e-mail campaign, he named Siemens' executives and accused them of selling out their company's workers. Emmons says that the 1,000 workers in the Lake Mary Siemens plant openly cheered when they read it. It is the moment in his campaign that he is most proud of.

The Florida native considers himself lucky. He got a job as a database manager at the district attorney's office. At \$55,000 a year, it pays him 40 percent less than he made at Siemens. (H-1B workers at Siemens ICN make as little as \$28,000, according to immigration documents.) But Emmons' new job does come with health insurance, which he needs since his 7-year-old daughter, who has spina bifida, has already undergone eight operations and will likely need more. Two of Emmons' friends haven't been so lucky. One who worked at Siemens for 23 years is now doing landscaping and odd jobs. A 15-year veteran is trying to make a living as a woodworker.

Emmons calls his political campaign against offshoring a war. "They can't just give all these jobs away and expect this country to survive," he says. "What's happening now is going to haunt this country for years to come." **CIO**

Staff Writer Ben Worthen covers public policy issues for CIO. You can e-mail him at [bworthen@cio.com](mailto:bworthen@cio.com).

**"THEY CAN'T  
just give  
all our jobs  
away and  
expect this  
country to  
survive."**

—MIKE EMMONS,  
COMPUTER PROGRAMMER

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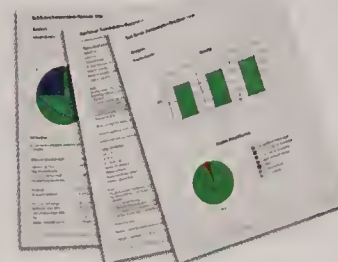
Like Mike Emmons, Daniel Soong never thought of himself as political. But 18 months out of work and a peer's suicide can change one's opinion. Read Soong's story of an American worker betrayed in the online exclusive, **No Americans Need Apply**. Go to [www.cio.com/printlinks](http://www.cio.com/printlinks).

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# The Hidden Costs of Offshore Outsourcing

Moving jobs overseas can be a much more expensive proposition than you may think

BY STEPHANIE OVERBY

**T**he current stampede toward offshore outsourcing should come as no surprise. For months now, the business press has been regurgitating claims from offshore vendors that IT work costing \$100 an hour in the United States can be done for \$20 an hour in Bangalore or Beijing.

If those figures sound too good to be true, that's because they are.

In fact, such bargain-basement labor rates tell only a fraction of the story about offshore outsourcing costs. The truth is, *no one* saves 80 percent by shipping IT work to India or any other country. Few can say they save even half that. As just one example, United Technologies, an acknowledged

leader in developing offshore best practices, is saving just over 20 percent by outsourcing to India. (For more, read "Inside Outsourcing in India," [www.cio.com/printlinks](http://www.cio.com/printlinks).)

That's still substantial savings, to be sure. But it takes years of effort and a huge up-

front investment. For many companies, it simply may not be worth it. "Someone working for \$10,000 a year in Hyderabad can end up costing an American company four to eight times that amount," says Hank Zupnick, CIO of GE Real Estate. Yet all too often, companies do not make the outlays required to make offshore outsourcing work. And then they are shocked when they wind up not saving a nickel.

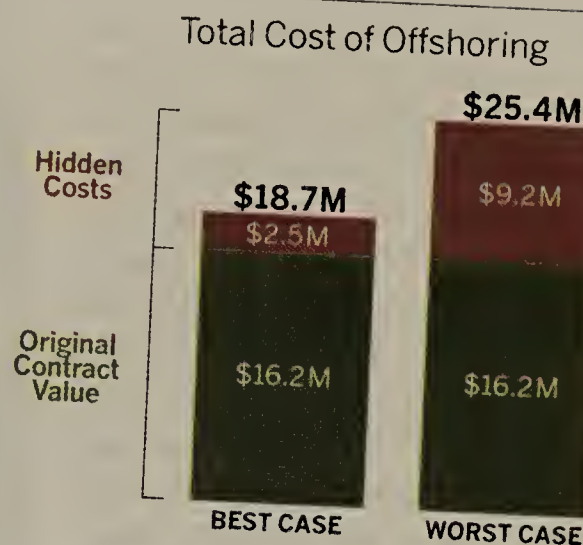
In this article, we will explore a new TCO—the total cost of offshoring. We will uncover all the hidden costs of outsourcing—areas in which you'll have to invest more up front than you might think, places where things such as productivity and poor

#### Reader ROI

- ▶ How the costs of staff transitioning and managing your offshore contract may be costlier than you think
- ▶ How to calculate the hidden costs of moving jobs overseas
- ▶ Why cultural differences can stymie the best-laid contract specs

# Do the Math

**IF YOUR COMPANY** spends \$16.2 million on offshore outsourcing contracts (the average value of offshore contracts for the 101 companies recently surveyed by CIO), even in the best-case scenario, you will actually spend 15.2 percent, or \$2.5 million, in extra costs on everything from transition costs to productivity lags as a result of cultural differences. In the worst-case scenario—meaning you have unexpectedly high layoff and transitioning costs and the productivity of your software development drops dramatically—you can expect to pay up to 57 percent, or \$9.2 million, in additional costs on top of the \$16.2 million cost of your offshore contracts.



| HIDDEN COSTS                           | BEST CASE      |                    |                  | WORST CASE     |                     |                  |
|----------------------------------------|----------------|--------------------|------------------|----------------|---------------------|------------------|
|                                        | contract value |                    |                  | contract value |                     |                  |
| 1. Vendor selection*                   | \$ 16.2M       | x .002 =           | \$ 32.4K         | \$ 16.2M       | x .02 =             | \$ 324 K         |
| 2. Transitioning the work              | \$             | x .02 =            | \$ 324 K         | \$             | x .03 =             | \$ 486 K         |
| 3. Layoffs and retention               | \$             | x .03 =            | \$ 486 K         | \$             | x .05 =             | \$ 810 K         |
| 4. Lost productivity/Cultural issues** | \$             | x .03 =            | \$ 486 K         | \$             | x .27 =             | \$ 4.4 M         |
| 5. Improving development processes     | \$             | x .01 =            | \$ 162 K         | \$             | x .10 =             | \$ 1.6 M         |
| 6. Managing the contract               | \$             | x .06 =            | \$ 972 K         | \$             | x .10 =             | \$ 1.6 M         |
| Total hidden costs                     |                | 15.2% =            | \$ 2.5 M         |                | 57% =               | \$ 9.2 M         |
| Original contract value                |                | +                  | \$ 16.2 M        |                | +                   | \$ 16.2 M        |
| <b>Total Cost of Offshoring (TCO)</b>  |                | <b>BEST CASE =</b> | <b>\$ 18.7 M</b> |                | <b>WORST CASE =</b> | <b>\$ 25.4 M</b> |

SOURCES: Meta Group, Gartner and Renodis

\* Annualized percentage from an initial five-year cost of 1 percent to 10 percent

\*\* This varies widely depending on the maturity of the offshore vendor and an understanding of cultural differences among offshore and onshore workers, as well the rate of turnover among offshore workers and the length of contract.

To calculate your hidden costs online, go to [www.cio.com/printlinks](http://www.cio.com/printlinks).

processes can eat away at potential savings, and spots where, if you're not careful, you could wind up spending just as much as you would in the U.S. of A. (For more on how to calculate your own TCO, see the work sheet "Do the Math" on this page.)

"You can't expect day-one or even month-six gains," Zupnick says. "You have to look at offshore outsourcing as a long-term investment with long-term payback."

## The Cost of Selecting a Vendor

With any outsourced service, the expense of selecting a service provider can cost from .2 percent to 2 percent in addition to the annual cost of the deal. In other words, if

you're sending \$10 million worth of work to India, selecting a vendor could cost you anywhere from \$20,000 to \$200,000 each year.

These selection costs include documenting requirements, sending out RFPs and evaluating the responses, and negotiating a contract. A project leader may be working full time on this, with others chipping in, and all of this represents an opportunity cost. And then there are the legal fees. Some companies hire an outsourcing adviser for about the same cost as doing it themselves. To top it off, the entire process can take from six months to a year, depending on the nature of the relationship.

Vice President of Program Solutions and

Management Ron Kifer spent several months on vendor selection before contracting with Bangalore, India-based Infosys to handle a whopping 90 percent of development and maintenance work for DHL Worldwide Express, a shipping company. "There's a lot of money wrapped up in a contract this size, so it's not something you take lightly or hurry with," Kifer says. "There has to be a high degree of due diligence making sure that the [offshore] company can respond to your needs."

Even when there is an existing tie between customer and offshore vendors, the expensive and lengthy step of vendor selection is a must-do for successful outsourcing. The

chairman of Tata Consultancy Services (TCS), a Mumbai, India-based outsourcer, sat on the international advisory board of Textron, a manufacturing company that owns such brands as Cessna Aircraft and E-Z-GO Golf Carts, for several years. However, when David Raspallo, CIO of business unit Textron Financial, began exploring offshore outsourcing in 1999, he still spent five months doing what he calls “the usual Betty Crocker Bake-Off” with service providers Covansys, ITS, TCS and Wipro. Ultimately, he went with U.S.-based Covansys, which has three development centers in India. Selecting the vendor took 500 hours in total, involved Raspallo and three senior managers, and cost \$20,000 in additional expenses.

At this stage, travel expenses enter the picture as well. A trip overseas helps CIOs get comfortable with their choice. After all, offshore vendors can send their best and brightest over for a dog and pony show, but checking out the company on its home turf provides more insight. John Dean, the CIO of Steelcase, an office furniture manufacturer, spent several thousand dollars to send one of his IT executives to Intelligroup Asia in Hyderabad, India, for a week before signing on the dotted line.

“You can read everything you want to read and ask for advice as much as you want, but you have to make it a fact-based decision,” Dean says. “So it was important to visit India to validate our thinking.”

Bottom line: Expect to spend an additional 1 percent to 10 percent on vendor selection and initial travel costs.

## The Cost of Transition

The transition period is perhaps the most expensive stage of an offshore endeavor. It takes from three months to a full year to completely hand the work over to an offshore partner. If company executives aren’t aware that there will be no savings—but rather significant expenses—during this period, they are in for a nasty surprise.

“You have to bring people to America to learn your applications, and that takes time, particularly if you’re doing it with a new ven-



**Ron Kifer, VP of program solutions and management at DHL Worldwide Express, ran into delays and additional costs in shifting jobs offshore when it took longer than expected to install the necessary hardware in India.**

dor for the first time,” explains GE Real Estate’s Zupnick, who maintains a handful of three-year contracts with offshore vendors, including TCS and smaller vendor LSI Outsourcing. In GE Real Estate’s case, the transition time for each vendor was three months at the very least and up to a year in some cases, in addition to the money-draining vendor selection period of several months.

Zupnick, who has seven years of offshore experience, says most of his peers don’t appreciate the time and money it takes to get a relationship up and running. “The vendors say you can throw it over the wall and start saving money right away. As a result, I’ve heard of CIOs who have tried to go the India or China route, and nine months later they pulled the plug because they weren’t

saving money,” Zupnick says. “You have to build in up to a year for knowledge transfer and ironing out cultural differences.”

CIOs must bring a certain number of offshore developers to their U.S. headquarters to analyze the technology and architecture before those developers can head back to their home country to begin the actual work. And CIOs must pay the prevailing U.S. hourly rate to offshore employees on temporary visas, so obviously there’s no savings during that period of time, which can take months. And the offshore employees have to work in parallel with similarly costly in-house employees for much of this time. Basically, it’s costing the company double the price for each employee assigned to the outsourcing arrangement (the offshore

worker and the in-house trainer). In addition, neither the offshore nor in-house employee is producing anything during this training period.

But it has to be done. "We made a mistake in the beginning of just packing up the specs and shipping them over, looking at it from a pure cost standpoint," says Craig Hergenroether, CIO of Barry-Wehmiller, a packaging manufacturer that has its own development center, Barry-Wehmiller International Resources, in Chennai, India, and works with other offshore vendors. "Silly mistakes were made because we didn't take the time to have them come over. It's a false savings to keep costs down by communicating only by phone."

During the transition, the offshore partner must put infrastructure in place. While the offshore partner incurs that expense, the customer should monitor the process carefully. Often it can take longer than expected. "It took an awful lot of time to bridge the Pacific [networking our company to the Indian vendor] and getting that to work correctly," remembers Textron Financial's Raspallo, who spent six months and \$100,000 to set up a transoceanic data line with Infosys in 1998 for Y2K work. It also cost an extra \$10,000 a month to keep that network functional. "You have to know hands down that the technology infrastructure you put in place is fully functional and will operate at the same performance level as it would if you were connecting to someone on the next floor. Otherwise, you'll have a lot of costly issues to deal with."

DHL's Kifer had similar problems. Long lead times for acquiring the necessary hardware in India delayed development work, he says. The hardware holdup put off the start of offshore work for several months, requiring DHL to continue to keep vendor workers employed onsite at the more expensive rate.

During the transition period, the ratio of offshore employees in the United States to offshore employees working at the vendor's overseas headquarters is high. But after the transition is complete, CIOs have to get those employees out of the office if off-

shoring is to be a money-saving move. "It's got to be 80 percent or 85 percent working offshore or the numbers just don't work," explains GE Real Estate's Zupnick.

It makes sense for offshore service providers to place as many of their employees in the United States as possible. The provider's margins—already quite decent for offshore work (Indian companies charge U.S. companies \$20 an hour for an employee they pay around \$10)—really skyrocket when they're on American soil. "They make more money and often the client feels better having them close," says

## Doing Your Offshore Homework

Offshore outsourcing may save you money; then again, it may not. Rather than accept offshore vendors' claims, you need to calculate your own ROI. Here are some tips to get started.

### 1. Know what your internal costs are.

If you don't know what your own real labor rates are for accomplishing tasks you plan to send offshore, how can you know how much you'll really save?

**2. Ask your peers.** Organizations such as the Society for Information Management and CIO conferences are great places to get the real information from peers who are outsourcing offshore.

### 3. Contact vendor references.

Ask these CIOs what unforeseen costs they've encountered in their offshore engagements.

### 4. Estimate potential soft costs.

As much as possible, figure in factors such as lower morale and cultural changes.

### 5. Create a three- to five-year plan.

Include your identified hidden costs as well as anticipated scope changes. —S.O.

Praba Manivasager, CEO of Minneapolis-based offshore adviser Renodis. "But the customer immediately loses all of the bill-rate savings." If not included in the original contract, additional travel and visa costs also must be figured in. Tally it all up and you will pay as much as you would for one of your own employees.

It's a difficult area for CIOs to manage. Work is much easier to do with offshore workers onsite, but to cut costs they must push as much overseas as possible. Conversely, the more manpower based offshore, the more project problems and delays. Barry-Wehmiller's Hergenroether says the amount of workers you can reasonably send offshore depends on the type of work being done. Industry- or company-specific system development requires more developers onsite. Legacy maintenance or simple upgrades may not require a soul.

"On some of our projects, up to 50 percent of offshore workers are onshore; on others it's closer to 10 percent," Hergenroether says. In some cases—where specific skills are the reason for offshoring—he may even bring in offshore talent over long term. "But if you're going to do that, your cost savings diminish dramatically," he says. In fact, there may be no savings at all.

Bottom line: Expect to spend an additional 2 percent to 3 percent on transition costs.

## The Cost of Layoffs

Laying off American employees as a result of your offshore contract poses other sometimes unanticipated costs. To begin with, you have to pay many of those workers severance and retention bonuses. "You need to keep employees there long enough to share their knowledge with their Indian replacements," Zupnick explains. "People think if they give generous retention bonuses it will destroy the business proposition. They cut corners because they want quick payback. But then they lose the people that can help with the transition and incur the even bigger cost of not doing the transition right."

Layoffs can also cause major morale

problems among in-house “survivors,” in some cases leading to disaffection and work slowdowns. Companies with experience in offshoring factor productivity dips and potential legal action from laid-off employees into the cost-benefit analysis.

“You can never underestimate the effect these issues will have on the success of [your offshore venture],” says Textron Financial’s Raspallo. CIOs must take time to communicate with their staffs, being “brutally honest,” he says. “If your intention is to lay off some workers and move work offshore, let them know. If you want to move legacy systems offshore and retrain staff for other systems, tell them that. And constantly reinforce what the vision is.”

Raspallo sets aside time for a monthly meeting with all staff (offshore included) by video. “In the beginning, we spent the whole time talking about the offshore proposition,” he says. “If you don’t spend that time doing that, your staff is going to make up stories about what’s happening themselves.”

Without this kind of effort, offshore endeavors are doomed.

“Internal people will refuse to transition to the offshore model because they have a certain comfort level, or they don’t want their buddy to lose his job,” Renodis’s Manivasager says. “There has to be a mandate. Trying to build consensus can take a very, very long time.” Manivasager has seen some relationships take as long as three years to get off the ground because the strategy was neither shared with nor embraced by employees.

Bottom line: Expect to pay an extra 3 percent to 5 percent on layoffs and related costs.

## The Cultural Cost

One of the biggest impediments to offshore savings is productivity. “You simply *cannot* take a person sitting here in America and replace them with one offshore worker,” GE Real Estate’s Zupnick says. “Whether they’re in India or Ireland or Israel.”

One reason for that is the American workers’ comfort level with speaking up and offering suggestions. “A good American



**Hank Zupnick, CIO of GE Real Estate, found that because of cultural differences you cannot simply replace one American worker with one offshore worker.**

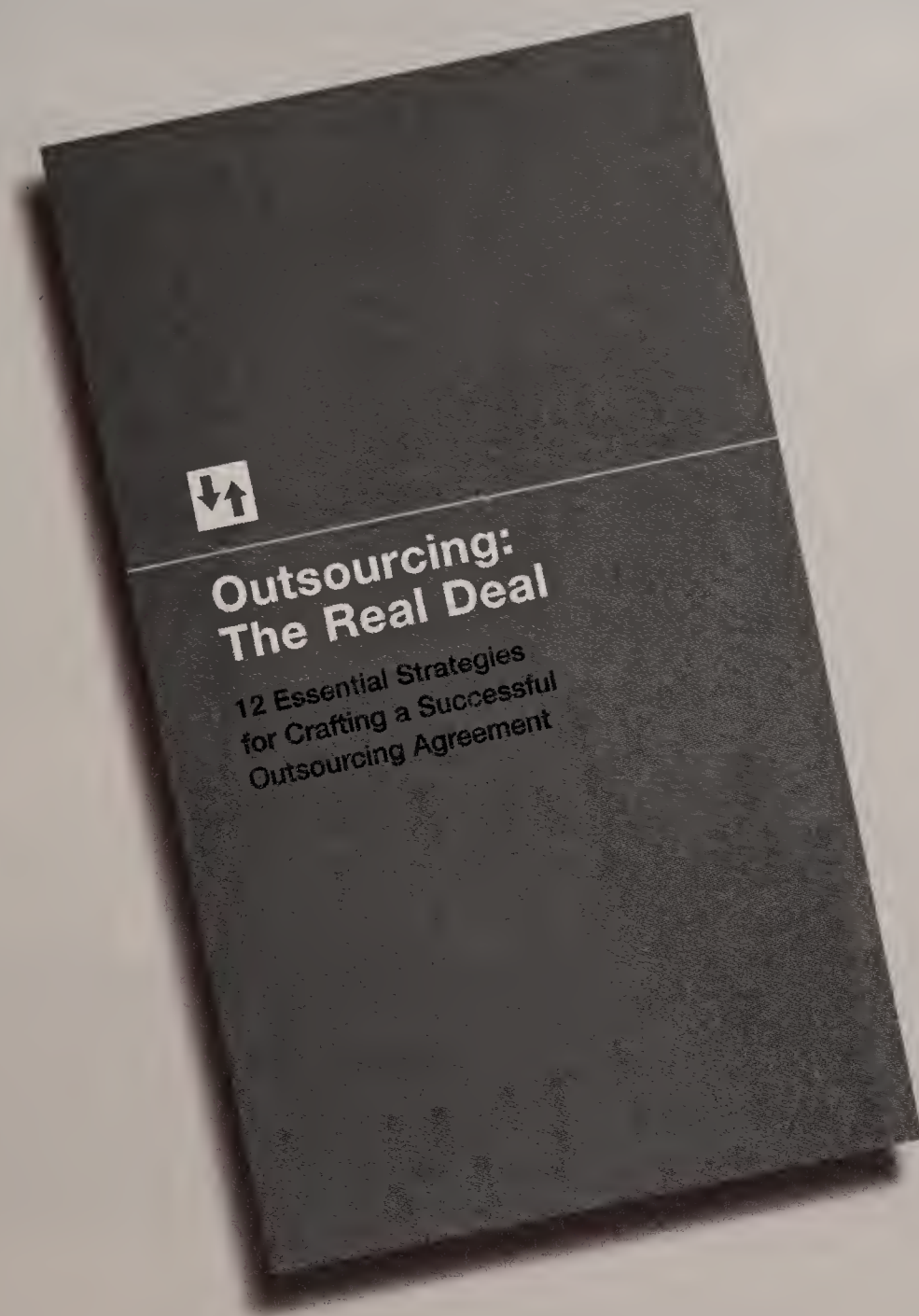
programmer will push back and say, What you’re asking for doesn’t make sense, you idiot,” Zupnick says. “Indian programmers have been known to say, This doesn’t make sense, but this is the way the client wants it.” Thus, work takes more time and money to complete. And a project that’s common sense for a U.S. worker—like creating an automation system for consumer credit cards—may be a foreign concept offshore. Additionally, offshore vendors often lack developer experience (the average experience of offshore developers is six years).

On average, IT organizations going offshore will experience a 20 percent decline in application development efficiency during the first two years of a contract as a result of such differences, Meta Group Vice President of Service Management Strategies Dean Davison says. According to Meta Group, lags in

productivity can add as much as 20 percent in additional costs to the offshore contract.

Another productivity killer is high turnover at offshore vendors. Attrition rates climb as high as 35 percent in India, according to the National Association of Software and Service Companies. “Unless you can somehow address that in your contract, you’re paying for someone to learn your product and then they’re gone,” Zupnick says. Turnover can cost an additional 1 percent to 2 percent.

Finally, communication issues can slow things to a halt. “We had to do a lot more face-to-face interaction than originally anticipated because [offshore workers] just didn’t interpret things the same way,” says DHL’s Kifer. “That resulted in a lot more travel there or bringing them onshore to bridge that gap. We did that a lot more often than



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the model would have prescribed.” Language and other cultural differences can cost an extra 2 percent to 5 percent, according to Meta Group.

Bottom line: Expect to spend an extra 3 percent to 27 percent on productivity lags.

## The Cost of Ramping Up

Well-defined and accepted internal software development and maintenance processes are also key to making an offshore situation work. “If you’re an organization that develops and maintains by the seat of your pants, or it’s a case where Mary Jo and Fred have been here for 30 years and they know how to do everything, you are in *trouble*,” says Raspallo, who currently sends 65,000 man-hours of work to India.

Level 3 across the entire global IS team. “It’s a big project, and it entails a significant level of training and education,” he says. “But if you’re going to take full advantage of offshore outsourcing, you have to raise your own maturity level.” Not everyone was gung ho about the new level of discipline required, but Kifer lit a fire under them with annual bonuses tied to certification.

The ability to write clear specifications is also critical to achieving offshore savings.

“When you’re doing this stuff internally, you tend to be much more cavalier,” says Hergenroether. “When you have to package specs to go outside the company, that has to be done exceptionally well.” Creating a great spec package is costly and time-consuming. On a 1,000 man-hour project for

## Talk to David Raspallo



Outsourcing is a tangled, more expensive web than you think.

**What are the real costs of going offshore?** David Raspallo, CIO of Textron Financial, knows. Until Sept. 15, go to **ASK THE SOURCE** to query him on offshore issues—costly and otherwise. Go to [www.cio.com/ask](http://www.cio.com/ask).

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recorded,” explains DHL’s Kifer. “We have as many as 100 projects a year, all with an offshore component, so you can imagine the number of invoices and time sheets that have to be audited on any given day.”

At DHL, each project manager oversees the effort. He audits the time sheets from the vendor and rolls the figure into an invoice, which then has to be audited against

**“THE VENDORS SAY** you can throw offshore jobs over the wall and start saving money right away. You have to build in up to a year for ironing out cultural differences.”

—HANK ZUPNICK, CIO OF GE REAL ESTATE

Raspallo spent five months and \$80,000 in consulting fees to get ISO certified in 1998, which puts his company at about Level 3 in terms of his employees’ “capability maturity” in developing software. He also invested in an automated Web-based system to support the new software development and labor management practices. Most of the Indian offshore companies are ISO certified and at Capability Maturity Model (CMM) Level 3 or 5. “If your own staff can’t get used to working at that level, you’re going to have a major disconnect,” Raspallo says.

If a company doesn’t create solid in-house processes, “the vendor will have to put more people onsite to compensate for your inadequacies, and they’ll spend all of your savings,” says Meta Group’s Davison.

DHL America’s IT department spent a full year to get to CMM Level 2 in 2002. Kifer is aiming to be at Level 3 in the United States this year, with the ultimate goal of achieving

example, Hergenroether’s staff will spend 100 hours to create a spec package.

At the other end of the process is quality assurance (QA) testing, an area which must become more robust in an offshore arrangement. “We essentially picked up two shifts of people in India working while we slept. The work we sent out at 4 p.m. came back to us at 10 a.m., and we didn’t have a QA funnel big enough to handle that,” says Radio Shack CIO Evelyn Follitt, who now hires more temporary QA staffers during development time.

Bottom line: Expect to spend an extra 1 percent to 10 percent on improving software development processes.

## The Cost of Managing an Offshore Contract

Managing the actual offshore relationship is also a major additional cost. “There’s a significant amount of work in invoicing, in auditing, in ensuring cost centers are charged correctly, in making sure time is properly

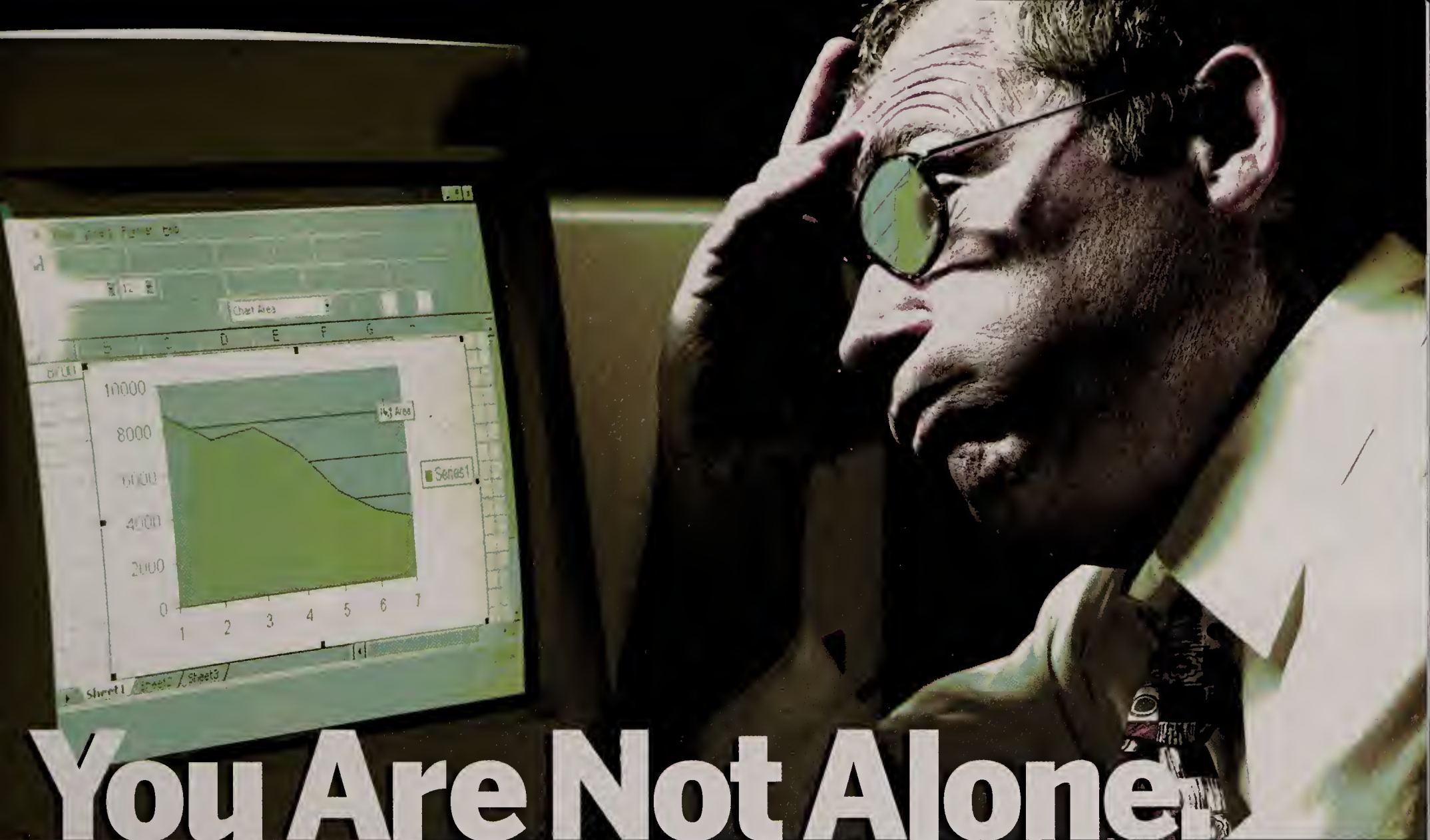
the overall project, which is then funneled to finance for payment. Kifer’s staff has been a bit overwhelmed. “We knew there would be invoicing and auditing,” he says. “But we didn’t fully appreciate the due diligence and time it would require.”

At GE Real Estate, managing the offshore vendor is such a big task that Zupnick assigned someone to handle it on a half-time basis at a \$50,000 salary. The individual makes sure projects move forward, and develops and analyzes vendor proposals against the RFPs when it comes time to bid out new work.

“It’s a critical job,” Zupnick says. “That’s the price you have to pay to make this work.”

Bottom line: Expect to pay an additional 6 percent to 10 percent on managing your offshore contract. **CIO**

Share your offshore outsourcing stories with Senior Writer Stephanie Overby at [soverby@cio.com](mailto:soverby@cio.com).



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## Reader ROI

- ▶ How two companies recovered from natural disasters
- ▶ Why a business continuity plan is so important
- ▶ What types of technology can save a business in the clutch

A man with short dark hair, wearing a maroon polo shirt, stands with his arms crossed in front of a severely damaged building. The building's roof has collapsed, leaving a complex, dark, geometric pattern of wooden beams against a bright sky. The man is looking slightly upwards and to the right with a serious expression. The background shows the remaining walls of the building, which appear to be made of light-colored stone or concrete, with some debris visible.

**PREPARED** When a May 4 tornado made its way through the western Tennessee town of Jackson—located in the infamous Tornado Alley—Josh Hart, CIO of Aeneas Internet and Telephone, was armed with a three-pronged continuity plan that hinged upon colocation, distribution and backups. Behind Hart is a building in Jackson that the tornado destroyed.

## Business Continuity

At 2 a.m., with those images in the background, Hart's cell phone rang—it was Aeneas Network Administrator Jason Warren calling from what he likened to Ground Zero to report that everything in Jackson was lost. Another call came in from CEO Jonathan Harlan.

"I'm listening to [Warren] tell me what it's like, and he says, 'It doesn't even look like there was an office here,'" remembers Hart, 25. "The tornado destroyed our computers, our desks, everything. I couldn't believe what he was telling me."

Aeneas lost nearly \$1 million in hardware and software that night, and an estimated 72 hours of downtime. But just as Aeneas in Virgil's *Aeneid* endured the worst the gods had to offer, so too did this Aeneas. This one, however, was wise enough to have created a contingency plan—one that minimized the damage and kept the company afloat during its darkest hour.

The company is not alone. After a nationwide scramble to prepare for high-impact, low-probability events similar to the attacks of Sept. 11, CIOs have since realized that their organizations are far more likely to succumb to another type of event—one that has a high probability of occurring and, curiously enough, is probably simpler to predict: the weather. For example, in June, while the Atlantic seaboard was bracing for the start of hurricane season, Arizona was busy battling forest fires (see "Go Ask the Weatherman," Page 74). And in Harris County, Texas, in 2001, a tropical storm and resulting flood taught one IT executive the importance of flexibility.

Both Aeneas's Hart and Steven W. Jennings, Harris County's executive director of central technology, share their experiences here in an effort to provide best practices and battle-tested secrets about which preparations work best. According to Carol Kelly, vice president of government strategies for Meta Group, these are lessons from which everyone can learn. "When disaster strikes, you want to be ready with a plan of action and an approach of how to deal," she says. "You might be ready for



**DEVASTATION** On May 4, 2003, a twister touched down in Jackson, Tenn., destroying everything in its path, including Aeneas Internet and Telephone (above). The ISP, with about 10,000 Internet and 2,500 telephone customers, lost nearly \$1 million in hardware and software, and 72 hours of downtime. A flag was placed atop the rubble.

the next terrorist attack, but if you're not ready for the next nor'easter, your plans won't amount to much."

### BIG PLANS FOR A SMALL COMPANY

Aeneas launched its contingency plan when it was founded in 1996; since then, CIO Hart has enhanced the strategy gradually almost every year. In early 2002, as the ISP neared 10,000 Internet customers, he and his network administrator, Warren, thought

up the company's most comprehensive approach yet. While they determined that the likelihood of a terrorist attack on the western Tennessee town of Jackson, population 59,600, was slim to none, they concluded that because of the municipality's location in the central United States' infamous Tornado Alley, the plan should respond to the next most likely cause of disaster—twisters. What ensued was a three-pronged plan that hinged upon colocation, distribution and backups.



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## Business Continuity

■ First, by employing Border Gateway Protocol (BGP) programming on a high-class circuit shared with an ISP 90 miles down Interstate 40 in Memphis, Aeneas would colocate in real-time its IP addresses and reroute data traffic offsite during any local disruption. With this system, servers would automatically reroute Internet service operations the moment a disruption occurred. In theory, at least, that would guarantee continuity of operations across the board.

■ Next, the company distributed its voice traffic dynamically, paving the way to switch its T1 connections from one fiber node in the Bell South network to another, in the event of a sudden telecommunications infrastructure failure. This system was designed to preserve continuity much like the BGP system.

■ Finally, the company's network administration team engineered applications that stored customer records and other data on tape as well as on backup hard drives. Though the tape and hard drives were stored onsite at the Jackson location, Hart and Warren figured onsite backup was better than none.

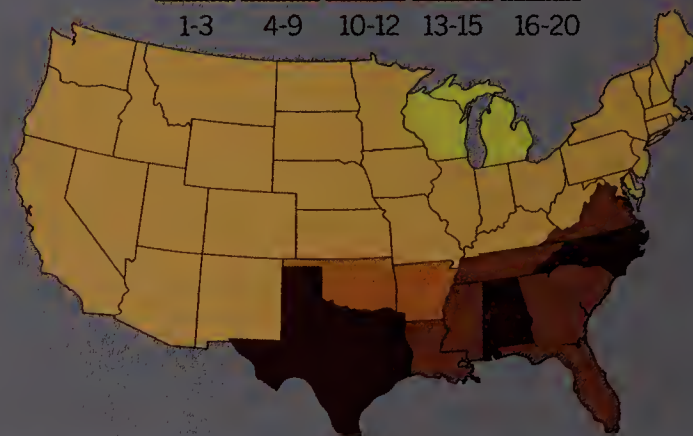
This strategy wasn't put to the test until tornado season this year, when hardware, software and pieces of the local infrastructure were destroyed May 4. Business customers on T1 lines lost their connections as soon as the tornado struck. ISP traffic also

## Billion-Dollar Weather Disasters

**While the Southeast** was a magnet for billion-dollar weather disasters from 1980 to 2002, every state had some. Michigan and Wisconsin had three or fewer such events. Hawaii (not pictured) had one event amounting to \$1 billion in the same time period. Alaska had none.

Number of billion-dollar-plus events from 1980 to 2002

1-3 4-9 10-12 13-15 16-20



SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION'S NATIONAL CLIMATIC DATA CENTER

"When you have hundreds of T1 lines that need to be moved from one node to the next, there's a lot of reengineering that needs to take place," says Hart. "We thought we were prepared, but I'm not sure we ever considered just how difficult this would be."

### BUMPS IN THE DISASTER RECOVERY ROAD

Beyond the challenges inherent in rerouting traffic, the remediation effort hit two other snags. The first revolved around colocation; because the colocation arrangement with the Memphis ISP was still being set up at the time of the tornado, the Memphis site didn't yet have sufficient servers. To remedy the situation, Aeneas staff members—and fam-

two setbacks involved the company's tape and hard-drive backups. It was clear from the beginning that most of the company's paper-based customer records had fallen victim to Mother Nature, but four days after the tornado, Hart and Warren discovered that the electronic tape and hard-drive backups had failed as well. Hart finally uncovered the tape and hard drives May 8—when he pulled the tape from the rubble, it was so badly damaged that he hardly recognized it. Hart passed the hard drives on to a number of local data recovery specialists to see if they could retrieve anything. One by one, each came up empty.

Finally, as a last resort, Hart plucked the hard drives from four different nonfunc-



**"We thought we were prepared, but I'm not sure we ever considered just how difficult this would be."**

—Josh Hart, CIO, Aeneas Internet and Telephone

went down immediately and took 36 hours to restore. The fiber node switch to recover voice traffic took a bit more time, as Aeneas programmers worked around the clock with technicians from Bell South to migrate the T1 connections from the old node to the new, finalizing the switch nearly three days after the twister hit.

ily and friends—drove to Memphis with additional equipment to handle the load. The company had some of this equipment on hand—what it didn't have, Hart and Warren purchased online and had overnighted to their homes. All told, colocation was down for about a day and a half.

The larger and more formidable of the

tioning computers and turned them over to Kroll OnTrack, a data recovery company in Minneapolis. Miraculously, the vendor discovered a recent copy of the customer records database on all four computers and was able to recover all of the customer data and return it to Aeneas, delaying printing of its May bills only minimally.

A hand holding a white flag on a thin pole, positioned over a complex, multi-level maze. The background is dark, and a small potted plant is visible on the left. The scene is lit by a track light from above.

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## LARGE ORGANIZATION, EVEN LARGER PLANS

For an IT organization as small as Aeneas, the tornado presented sizeable challenges. But for the IT organization of Harris County, Texas, which services more than 15,000 county employees and nearly 3.5 million constituents, the problems presented by Tropical Storm Allison were downright monumental.

Disaster struck June 6, 2001—the second day of a five-day storm—when atmospheric conditions caused a cloud to linger over the Houston area for nearly six hours, dropping more than 39 inches of rain. By the time the clouds parted, Harris County government had lost five buildings and most of the communications and other hardware and software in them to water damage. The price tag: a whopping \$24 million.

Fortunately, though, Executive Director of Central Technology Steve Jennings had prepared for such an event. When Jennings joined county government in 1975, he established continuity planning to address natural disasters, such as flooding and hurricanes. The plan, which he dubbed the Four R strategy, hinges on four incremental steps—review, rewire, relocate and rebuild.

With this in mind, Jennings attacked the recovery immediately, following his plan like a bible. The morning after the deluge, he and his top advisers met to review assets and assess damages. Next, because Harris County is public and qualifies for federal aid, Jennings called in the Federal Emergency Management Agency (FEMA) to inspect the damage and lend him some disaster recovery expertise. He also brought in NetVersant Solutions to lay new fiber-optic cables. This process took approximately six weeks. In the meantime, Jennings reconvened his advisers,

and put together an emergency relocation plan to disperse county employees into available office space on high, dry ground. Three months later, he tapped into the first of several batches of funding from FEMA to start rebuilding, spending millions on treating buildings for water damage.

Jennings also worked double time to ensure that county communications didn't miss a beat. "We utilized existing remote access facilities that allowed county employ-

ees to dial in from home until their new offices were finished," he says. This was done for employees whose jobs were deemed critical to county operations and for those for whom the county couldn't find alternative space. Jennings then mobilized a force of technicians to install high-speed connections at the homes of those employees who needed it most.

Finally, with the help of the county clerk's office, Jennings activated a cache of 300 Cin-

## Go Ask the Weatherman

How the National Weather Service prepares for natural disasters

**Even those who predict the weather** know enough to plan for the worst—just ask Barry West, CIO at the National Weather Service (NWS). With 122 weather forecasting offices and more than 400 radio transmitters all over the country, the NWS is more vulnerable to weather disasters than even the largest company. According to West, all of those data centers function with the help of the organization's continuity of operations planning.

This planning effort is designed to minimize hardware loss in the event of natural disasters of any kind. The effort incorporates weather forecasts into a plan to dismantle the expensive radio transmitting facilities when the weather itself threatens their existence. When flames threatened a radio transmitter station during forest fires in Arizona in June, for instance, the strategy kicked into full gear, and NWS technologists rushed into the hills to dismantle the station.

"We have too much invested in these sites to run the risk of letting Mother Nature destroy them," says West. "We provide weather data to just about everyone in the country, and if our system goes down, the whole network falls apart."

The NWS has embarked on a drive to strengthen its continuity plan even further, investing millions into a backup site for the organization's telecommunications platform nationwide, according to West. The site, a satellite-based system, is designed specifically to respond to every weather threat whatsoever, including hurricanes, twisters and even dust storms. Once live, the backup site can be used to run telecommunications and data monitoring, and switch systems at a moment's notice. West says the NWS will test it regularly, as frequently as once a week. —M.V.



**"Mother Nature never follows a script, especially not the one you wrote."**

—Steve Jennings, executive director of central technology, Harris County, Texas

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gular cell phones, which had been reserved to help the blind vote on Election Day, and distributed them on an as-needed basis to county departments. "Those phones are deactivated for 11 months of the year, but they were available and we needed them," he says, noting that network administrators deactivated the phones and retrieved them once they managed to bring each department back online. "Part of recovering from a disaster is making use of everything you can find, and we did just that." When all was said and done, it took the county about a year to return to normal, which, according to Jennings, was pretty good given the scope of the damage.

### LESSONS LEARNED

Jennings says the storm confirmed his belief that continuity plans should be flexible and horizontally applicable. Before the flood, Harris County's disaster recovery plan was conceived to respond to potentially any disaster, but it typically addressed single events such as the loss of a building, a network or a system. It was flexible enough, however, that it worked even when the county was faced with recovering multiple facilities. He adds that Harris County government "uses different portions of the plan for total recovery." Today, the Harris County continuity plan incorporates suggestions from employees who were part of the recovery process and lists scenarios for various "disaster combinations" that could occur during the next big storm—such as what to do if both the jail and family court gets hit. When that storm does happen, Jennings says he'll respond even faster than he did in 2001.

The next time a weather event occurs, Jennings says he'll also have the added benefit of wireless. After the flooding, as Jennings tried to rewire the Harris County jail, he spent \$200,000 on Lynx high-definition

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## Five Keys to Ensuring Business Continuity

**You get only one chance** to respond to a weather catastrophe. According to Al Berman, senior vice president and leader of the national business continuity management practice at Marsh, IT organizations of every size should test their disaster recovery strategies regularly. He offers the following tips.

- 1. Back up all critical data** at least daily, including data to redundant servers, network drives, and tape or optical drives. Backups should be performed more frequently for data that cannot be reconstructed from any other source.
- 2. Back up laptops** and ensure that critical data is not stored on C drives but is stored to network servers that are backed up and stored offsite. Many businesses fail to realize the importance of data stored locally on laptops. Due to their mobile nature, they can easily be lost or damaged.
- 3. Maintain copies** of all backups offsite. This is especially important if an entire server is damaged or destroyed. SmartSync Software, Sun Microsystems and Veritas Software provide software that automatically backs up data to an offsite server daily.
- 4. Schedule regular reviews** of computer security to help prevent unauthorized access, modification or deletion of data.
- 5. Create a disaster recovery plan** as part of a comprehensive business continuity plan.

—M.V.

wireless technology as an interim solution. The technology worked so well that he kept it and now has it on hand to pinch-hit during the next crisis. If, for example, a storm knocks out phone lines in the southeast corner of the county, Harris can set up wireless in hours. In addition, if another rainstorm waterlogs some of the underground fiber optics downtown, Harris can use the technology to provide emergency telephone service to anyone who needs it.

"Mother Nature never follows a script, especially not the one you wrote," Jennings quips. "As we have more experience recovering from the disasters she wields, we'll have a better sense of which remedies work best."

At Aeneas, Hart notes that from "now until the end of time," he'll keep an electronic records backup offsite to eliminate the problems he endured in recovering those mission-critical customer files. Planning for offsite backup had begun before the May tornado, and the site is now up and running

in Memphis. Hart admits that his error in planning nearly cost Aeneas everything, adding that he'll never make that mistake again. Another misstep Hart says he'd correct is the way he handled the media in the days following the tornado. If he could do it all over again, Hart says, he would have been on the phone immediately with newspapers, TV stations and radio outlets to jump-start the company's PR campaign and assuage customer concerns.

"[Our customers] must have been watching the TV news thinking, 'Man, that's my ISP,' and we're too busy working on restoring systems to think about putting their minds at ease," he says. "Restoring technology after a disaster is important. But rebuilding customer confidence...it doesn't get more important than that." **CIO**

Matt Villano is a freelance writer based in Moss Beach, Calif. Do you have a disaster story to tell? If so, e-mail us at [letters@cio.com](mailto:letters@cio.com).



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## CRM OBJECTIVES

Integrate systems to eliminate inconsistencies in product data and simplify the process of synchronizing internal data with customers' systems; develop a method of tracking and managing customer incentives globally; more efficiently monitor retail conditions in the field with a streamlined sales force

## THE PLAYERS

### ROBERT SCOTT

Vice President of IT, Global Market Development Organization, P&G

### TIM BUTLER

CIO, North American Market Development Organization, P&G

### ERIK J. VERRIJSEN

Associate Director of IT, Global Market Development Organization, P&G

## CASE ANALYST

### DALE HAGEMEYER

Principal Analyst, Gartner

# 300 Brands, One Strategy

When your reach is as vast as P&G's, building a worldwide view of your customers is a matter of thinking globally and acting locally

BY MEG MITCHELL MOORE

**WITH MORE THAN** 5 billion end consumers in more than 160 countries, Procter & Gamble has long had an enviable global reach. The Cincinnati-based packaged goods manufacturer literally makes products with brand names from A to Z, and sells them all around the world in stores that range from giants like Wal-Mart to Mom-and-Pop outfits operating off the back of a truck.

But such reach, while a blessing for brand recognition, has often presented a challenge when it comes to interacting with retailers. Until recently, P&G kept track of its diverse customer base through an equally diverse array of local (often homegrown) systems. That lack of integration meant a retailer such as Wal-Mart might receive conflicting product and promotion information about Crest toothpaste from a legacy trade funds system in Cincinnati and a homegrown shipment reporting system in Guangzhou, China. If the two systems had different SKUs for the same product, it would lead

to confusion and extra work for Wal-Mart if the retailer attempted to roll up its data on worldwide Crest sales. And for P&G, the more variety in its systems, the harder it was for the company to dispense consistent information to its retailers about its nearly 300 brands, not to mention plan promotions and execute a sales strategy.

"As customers become more global, our ability to understand, interact and manage our business is limited by a nonintegrated platform," says Robert Scott, vice president of IT for P&G's Global Market Development Organization (MDO). "Fundamentally, we knew we wanted to change that." Faced with aging IT systems in the late 1990s, P&G decided to take the plunge and launch a worldwide customer relationship management initiative.

CRM is not a term to be tossed around lightly in a company as vast as P&G—especially since its global offices operate with varying degrees of technological sophistication. In a

developing market like China, for example, retailers are much more likely to sell small packets of Tide than the 100-ounce containers that dominate the shelves in North America. The cost of business therefore has to be lower, leaving less money for swanky technology initiatives. So P&G had to figure out how to manage CRM technology on a global level, making it broad enough to traverse the world but flexible enough to help get products on the shelves in far-flung places. By choosing a single platform that could be scaled down for the smaller markets, P&G was for the first time trying to treat its retail customers consistently, whether those customers were selling Folgers in Fort Worth or Downy in Dublin.

## THE BEGINNING

Scott says three factors drove P&G's CRM efforts (which began in 2000 and will take until at least 2005 to implement). First, P&G needed integrated systems to eliminate inconsistencies in product data and simplify the process of synchronizing internal data with customers' systems. Second, P&G spends hundreds of millions of dollars annually on customer incentives to encourage retailers to stock and sell P&G products. Without a reliable way of managing those promotion dollars in all countries, it was tough to track which incentives were successful and which were bombs. Third, the company had streamlined its field sales force in the 1990s yet still wanted to make sure that retail plans formulated at the company's headquarters reached stores quickly.

Enter CRM. P&G decided to use Siebel because, according to Scott, Siebel made it possible for P&G to build a global integrated platform that was also configurable for specific markets. Typically, P&G IT systems developed in North America or Western Europe didn't work in Asia or Latin America, says Tim Butler, North American MDO CIO. The systems proved too expensive and unwieldy for P&G offices in those parts of the globe, so local offices created their own homegrown systems. P&G wanted a bare-bones version of Siebel's sys-

tem with the functionality not necessary for smaller markets stripped out. At first Siebel balked, but eventually the companies agreed on a scaled-down version that would enable P&G to implement one platform globally.

Although Scott made Siebel P&G's standard global CRM platform in order to pave the way for worldwide data rollup, he did not attempt to mandate any global CRM projects; all initiatives would come from the ground up, driven (and justified) locally. "We started the effort not as a global system we needed to sell in but as global help for key countries to meet their local business needs," says Scott. P&G provided those key coun-

tries—France, Japan, the United Kingdom and the United States—with resources to help implement Siebel. "The result was that we actually built local suction for the platform, rather than having to push it," he says.

## CRM IN ACTION

So far, P&G's CRM efforts fall into three categories: retail execution, trade funds management and product management.

**Retail execution.** Historically, P&G has relied on a traditional sales force whose broad in-store presence let the company keep abreast of retail conditions such as pricing and out-of-stock updates, work with retailers

# READING BETWEEN THE LINES

BY DALE HAGEMEYER

The striking thing about Procter & Gamble's approach to CRM is that it is rooted in a strategy. Fully half of the user organizations I encounter can't articulate how CRM—a business strategy—is part of their overall company strategy. Consumer goods companies embark on CRM as a tactical response to a need, such as managing trade promotions. P&G, on the other hand, has an articulated CRM strategy and a phased, multifaceted approach. Its IT executives clearly see themselves as business strategy co-owners; they talk not about the technology but about enabling business processes to strengthen customer relationships. Bottom line: Have a strategy and make sure everyone understands it.

The business processes of the consumer goods industry have not changed in decades: Understand the opportunities through analysis, plan the product and promotional mix at the geographic and customer levels, link the product demand requirements to supply chain, monitor execution and competition at the store level, and settle with the customer for merchandising activities. P&G understands how those processes interrelate and has a strategy for enabling them in a way that will better address customers' needs. Bottom line: Focus on the processes that meet customer needs.

P&G has walked a fine line between over-customizing applications and leaving them too generic. To have a global standard and a single view of the customer globally, there must be some provision for changes in business practice. Many consumer goods companies have tried to force a single standard on all operating units only to have them revolt and choose their own tool. Conversely, going overboard with customization becomes a support nightmare and endangers the project by drawing it out, making stakeholders impatient. Bottom line: Develop a strategy and focus on customer-facing processes first. Then choose a vendor whose capabilities closely map to your approach and let you capture local nuances.

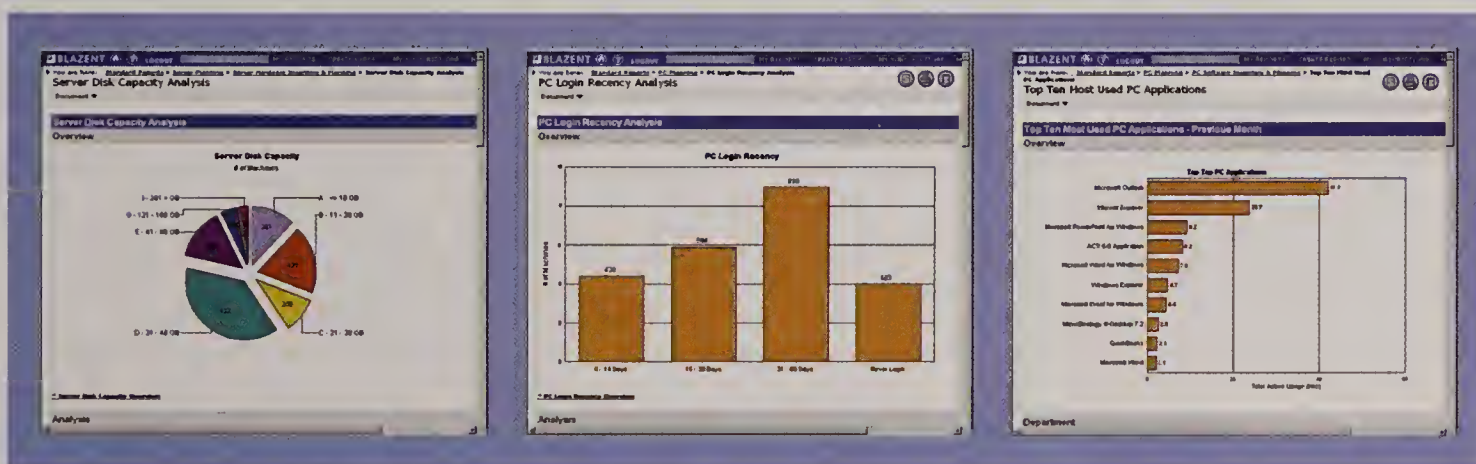


Dale Hagemeyer is a principal analyst in Gartner's CRM practice. He can be reached at [inquiry@gartner.com](mailto:inquiry@gartner.com).



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to ensure proper placement of P&G products on the shelves and introduce new products. In the past decade, P&G has begun to use multifunctional customer teams at headquarters—which rely on data gathered by a lean team of sales reps—to care for key accounts. Reps who visit stores relay information such as product placement and out-of-stock situations to the customer teams.

Reps—or third-party temps—used to collect data ad hoc: writing it down, faxing, rewriting it. “Accuracy became kind of a problem,” says Butler. “It wasn’t consistently

10 percent to 15 percent on retail selling costs and allowed P&G to increase sales coverage by 15 percent to 20 percent.

**Trade funds.** P&G won’t say exactly how much it spends annually on promotions and incentives that encourage retailers to stock and sell P&G products, but Scott estimates it to be hundreds of millions of dollars globally. That’s a significant chunk of change, but in P&G’s pre-CRM days there was no electronic tool to ensure adherence to global standards for managing that expense. Each country often had its own tools, ranging from

to retailers around the world remains a perennial challenge. The more efficiently that happens, of course, the faster the products can get onto the shelves and into shopping baskets. But in P&G’s pre-CRM days, exchanges between P&G and its retailers were anything but seamless. “We would take all the product data we have in our systems, type it into a customer form and send it to the customer. They would then pull it out of their systems and retype it. You can imagine the slowness of the process and the number of errors,” says Butler. P&G is now calling on Siebel to help clean up and organize the product data to prepare it for automatic synchronization with customers’ systems.

By using Siebel eConsumer Goods to manage its data, P&G is able to more easily deliver product information in a standardized format to Transora, a consumer packaged goods industry exchange. Retailers using the same standards can plug into Transora and download product data. This standards-based data sharing lets P&G efficiently deliver precise product information uniformly to its retailers—no easy task given the U.S. market is home to seven varieties of Tide, at least 10 other P&G laundry products, and more than 20 other major categories, such as pet food and oral hygiene.

It’s hard to overstate the significance of this uniform delivery. “For global customers, rather than seeing four or five different faces of P&G, and different outputs from those systems, they’re getting consistent output no matter what country it’s coming from,” says Butler. Using industry standards reduces the time-consuming process of filling out forms for both P&G and retailers. It also reduces errors in the retailers’ data catalogs, each of which can cost up to \$100 to fix. And Butler says that P&G can get a new item to the shelves days and even weeks faster than in the past. “That’s a big deal in a competitive environment,” he says.

## LOOKING AHEAD

One of the company’s biggest challenges, according to Verrijssen, will be accelerating CRM efforts at an appropriate speed while

CRM is not a term to be tossed around lightly in a company as vast as Procter & Gamble—especially since its global offices operate with varying degrees of technological sophistication.

collected, and it wasn’t uniform,” says Scott. “You were getting indicators as opposed to regularly collected information on these fundamental points of data.”

The Siebel system now lets P&G’s sales force gather that data in North America and parts of Western Europe with laptops, handhelds or tablet PCs and send it electronically back to P&G’s databases. “In near real-time we can assess whether or not we’re having problems with key sales fundamentals that ultimately will impact sales,” says Scott. Now, adds Butler, P&G can collect data such as what items are out of stock in a particular retailer and get that data into the hands of those responsible for filling the shelves.

The new system helps reps collect information faster so that they can visit more stores, and more store visits translates into higher sales. In fact, Scott attributes a 3 percent to 5 percent sales volume increase to the Siebel efforts. And because cost controls mean that P&G is learning to do more with fewer people—the company says it reduced its sales force “substantially” when it introduced the customer teams—the more efficiently those people can work, the better. The CRM efforts have saved the company

simple Excel spreadsheets to complex legacy systems. “Some were very good; some were a disaster—but it was very local,” says Scott.

Now P&G has begun using Siebel tools to plan and execute promotions, set budgets, trigger payment requests and get payment status. The Siebel system also allows P&G to record a history of promotions. “When we start planning promotions, we do it with a smarter knowledge around what we’ve learned in the past,” says Erik J. Verrijssen, associate director of IT for the global MDO. “We found there was opportunity to get more bang for the buck and really make sure that we have more efficiency in spending that money by understanding what worked and what didn’t work.” Scott says P&G is already saving 10 percent to 20 percent in areas where the company has implemented trade funds applications. In addition, electronic trade funds management furthers P&G’s ultimate goal of consistency by making sure promotions are administered the same way to retailers around the world.

**Product management.** With a product list as extensive as P&G’s, getting consistent product data—sizes, descriptions, prices and images of new products—from headquarters

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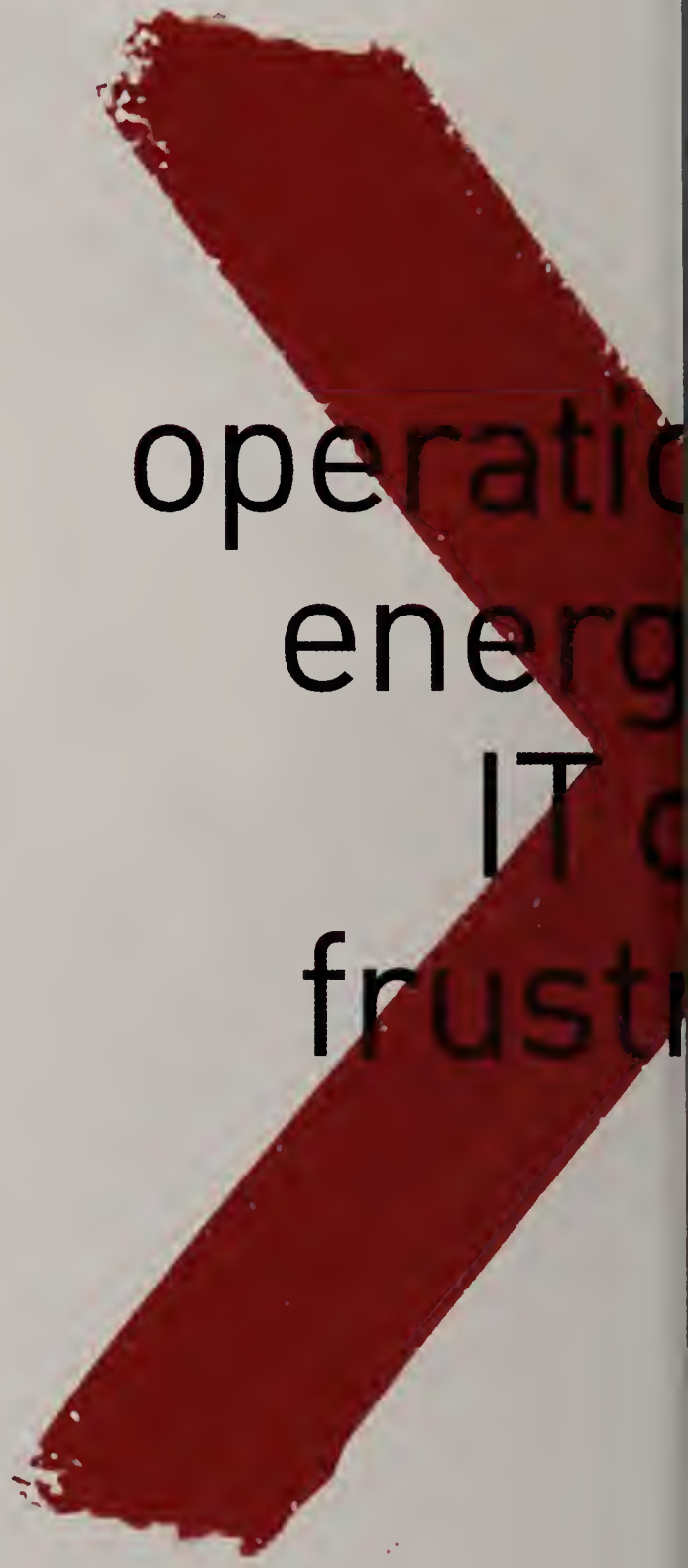
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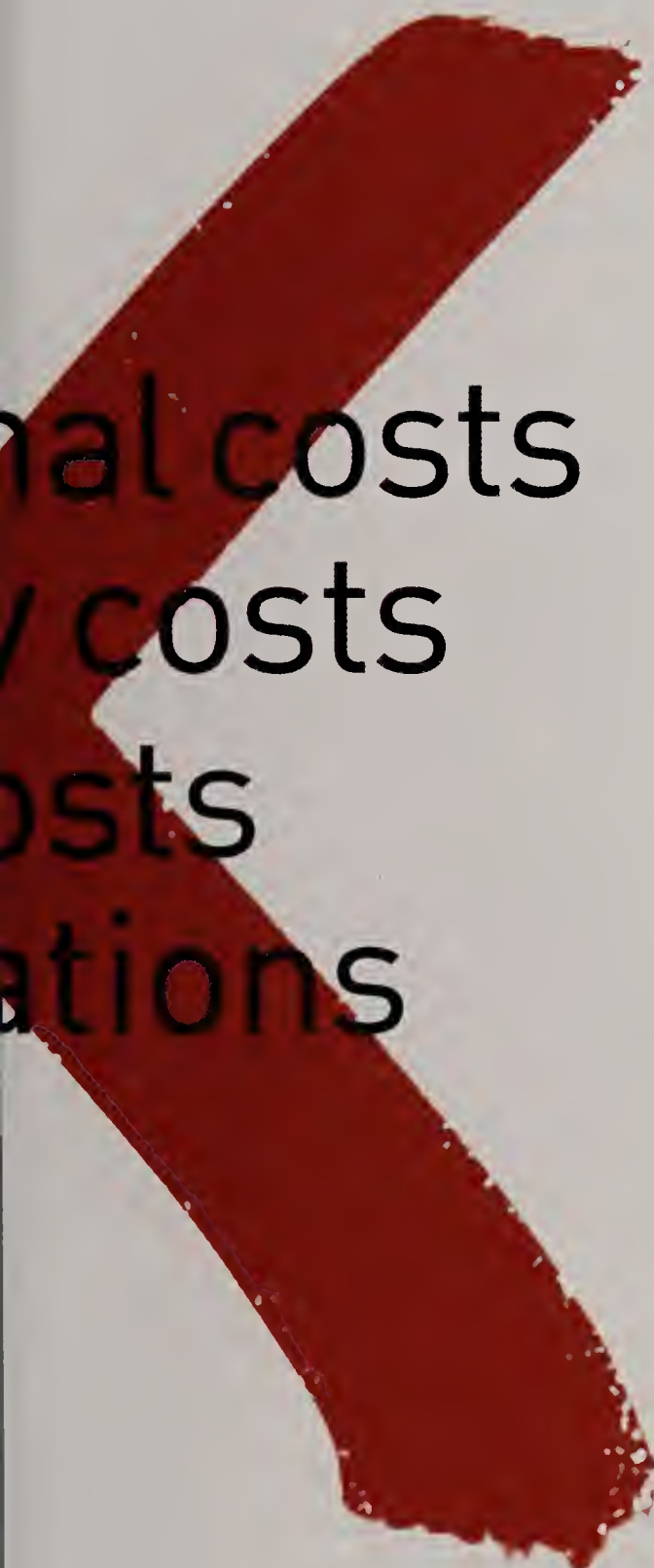
making sure P&G is implementing solutions that will work in all corners of the world. "There is a borderline—call it the 'golden road'—between complete standardization, which is easiest from an IT perspective, and having everybody do what they want," says Verrijssen. "I think we've found a good balance."

The key to P&G's CRM implementation, and what makes it different from anything the company has tried in the past, is the fact that the local offices can do what they want with CRM as long as they use the basic Siebel platform. "We have a philosophy of adoption versus rollout," says Butler. "Rollout is kind of a check-the-box mentality—Hey, the system's out there, you've got it, go. Adoption is more of a philosophy of really understanding the business need and then adapting the tool to fit that business need so that people embrace the tools and start using them to drive their business." The plan, then, isn't to foist technology on places that don't need it, but to address local business needs with a single platform whose combination of flexibility and standardization will eventually enable global data sharing. "Typically, anything that sounds global gets rejected," says Butler. By helping local offices use CRM to speak to specific needs, P&G hopes to avoid that automatic rejection.

As P&G moves ahead with its CRM efforts, it plans more elaborate uses of the technology. For example, the company is working on an electronic dashboard, powered by Siebel's eAnalytics technology, which Scott calls "the next level of capability." The idea is to help P&G management keep tabs on the status of P&G initiatives around the globe. Having a single CRM platform, of course, makes it possible to roll up data from every market to create a truly big-picture management tool. If all is well, the dashboard will show green. Potential problem areas—if, for example, a promotion is underselling its objective or the company fails to reach target distribution in certain locales or for certain products—will show red on the dashboard and give man-



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agers access to details. "If one of your key indicators is out of whack, you want to be able to drill down and understand what's out of whack and why, and what you can do to correct it," says Scott. P&G hopes this window into the health of the business will allow the company to react more quickly to business changes. "Traditionally, that's been a pain because we had different platforms and data wasn't always available," says Verrijssen.

P&G thinks of its upcoming efforts as "closing the loop" between sharing data with and gathering data from its customers, and using that information to make smarter, faster business decisions. Butler believes that CRM's true power lies not merely in collecting and storing specific sales or promotional data but in capturing something less tangible but ultimately more important: conversations with customers about business strategies that will help P&G improve its business processes. Says Butler: "When you can use something like CRM to pull together the knowledge you have on a customer with the systemic transactional data, that's where you really start to see the whole CRM picture coming into view." Before, he says, business strategy plans were often captured "on napkins, in people's heads, or not at all."

P&G's results with the North American and initial Western European Siebel implementations have been so positive that the company is looking to speed up expansion across Western Europe. This approach seems to be working so far; now other countries are clamoring for a piece of the action. That's a call P&G hopes to be able to answer quickly. "This is a snowball that's really growing for us," says Scott. "Our single biggest challenge is to figure out how to accelerate this program broadly around the globe." A formidable challenge that may be, but if P&G manages to meet it, the company and its retailers will be smiling bigger, whiter smiles than anyone. **CIO**

Meg Mitchell Moore is a freelance writer based in Vermont. Send comments and CRM Case Files suggestions to [adragoon@cio.com](mailto:adragoon@cio.com).

# Career Counsel

Expert Advice to Aspiring CIOs and IT Managers

## The School of Life

Although an official degree—preferably an MBA—is good to have, don't knock the school of hard knocks in your quest for education

**Q: I have a CPA and an MBA in technology. After business school, I was recruited into an information leadership program at a very reputable company. At this stage in my career, I am looking to acquire some "techy" skills through online or short-term courses. What is the best way to acquire this knowledge?**

**A:** I suggest four possibilities: First, check out Microsoft's certification courses. The value of that is twofold—it will enable you to acquire techy skills that are in demand, and this is a program that most companies will recognize.

Second, find out if you can take individual courses from the computer science curriculum at a good university or technical school. Some tech schools have certification programs in computer science that are six months to a year in duration. The Chubb Institute, for example, offers a well-recognized program with a dozen locations around the country. Getting an additional master's degree is another avenue, but that's time-consuming and may be similar to your MBA in technology. However, it may be worth looking into a master's degree in information management.



Third, talk to some of the most technically proficient IT managers in your company. They may have recommendations for courses, schools or seminars that they highly regard.

Finally, have a discussion with your boss about your interests. He may be able to guide you to people both inside and outside the company for advice. If your boss agrees that the company will benefit from your taking specific courses, you might get your additional education paid for and ultimately find that you are included in projects that support your interests. This could be a nice win-win.

*—Beverly Lieberman,  
president of Halbrecht Lieberman Associates*

**Q: In 1997 I was asked to manage an accounting department with a \$7 million budget. I now wear two hats—I am both the IS director and the accounting manager. I spend my time**



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## Career Counsel

working on financial projection, budgeting, forecasting, and support for the accounting and billing staff. With the assistance of outside computer support, I also plan and implement technology solutions. I have a bachelor's degree in computer information systems and a Novell engineer certification. I am planning to go to graduate school. However, I do not know whether I should pursue an MBA in finance or an MBA with an emphasis on technology.

**A:** Your background is somewhat unusual in that you have more accounting and finance experience than the typical director of IT or CIO. I see that as a good thing considering those are skills that will remain relevant throughout your career. From the perspective of a recruiter and employer, an advanced degree is always positive when considering candidates. I am a big advocate of an advanced degree as it indicates a willingness to sacrifice, improve and achieve, and more often than not distinguishes you from the competition.

Ask yourself the following questions: What are my primary areas of professional interest? What position do I hope to achieve? If the CIO position is your goal, you should consider

the MBA with the finance concentration as that will enhance your current knowledge of finance and provide additional exposure to manufacturing,

marketing, economics and management. The MBA also provides broader appeal as you move forward in your career. If you are concerned about a lack of formal technical training or large project management, you can supplement your MBA with excellent seminars and courses offered by vendors and business schools. If your aspiration is to become a CTO, then you may want to place more emphasis on an IT curriculum within the MBA offering.

Whichever path you take, make sure you are shopping for the right school. All MBAs are not the same and there are significant differences in curriculum, content and professional staff at each school.

—Gerry McNamara,  
partner of Heidrick & Struggles

**Q:** I'm looking into obtaining a certificate for chief information officers sponsored by the U.S. Federal CIO Council and administered by the General Services Administration. Does this certificate give me any competitive advantage, or is it just something that is nice to have? Are companies looking to hire people with this credential?

**A:** I have yet to have any client inquire about, and certainly never require or even prefer, that or any other CIO certification. Official recognition and certification of specific

knowledge and particular skills are widespread among the hands-on technical ranks in the IT field—and in many other vocations that require detailed expertise. But the idea of certification for a corporate organizational level or title is an anathema as a measure of senior executive preparedness or accomplishment. There is no such credential program for any other C-level position, and I think certification undermines the perception of the CIO as a businessperson and reinforces the impression of the CIO as a technologist. However, if getting your ticket punched in this way is helpful to you in securing a federal position, then go for it. But I recommend that you omit the certification from the version of your résumé sent anywhere in the commercial sector.

—Mark Polansky, managing director and member  
of the advanced technology practice at  
Korn/Ferry International

**Q:** I have a bachelor's degree in English and a master's degree in journalism, both obtained in China. After I moved to California, I got a master's degree in computer resources and information management (a "technical MBA"). I took introductory courses in networking, database management, systems design, project management and IT strategic planning, along with marketing, accounting and business communication. I have seven years of experience in international trade in China, and two years of experience in telecommunication equipment sales and business development. I was recently laid off and might go back to school to attend a certificate program in e-business that covers supply chain management, Web development and marketing to payments. Is this worth it, or should I stick to job hunting?

**A:** Assuming that the e-business certification program you are contemplating has a compelling curriculum and quality teachers, why not attend *and* continue to keep your job search active? You haven't mentioned anything about the program's logistics such as duration and time commitment, full time versus part time, cost and so on. If you enroll and then choose to accept a great opportunity that comes along during the course of study, perhaps you can adjust your academic and vocational workloads to accommodate both. If that's not possible, go for the great offer. I would anticipate that the time and money you will have expended on the program to that point will not go to waste, even if you don't complete your certificate. At the end of the day, you will have wisely used your "downtime" to study and improve your knowledge of an important aspect of doing business in the 21st century, even if you don't get a piece of paper that says so. —M.P. 

The Web-based Executive Career Counselor column is edited by Director of Online Research Kathleen Kotwica. She can be reached at [kkotwica@cio.com](mailto:kkotwica@cio.com).

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# Hot Seat

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Editor Edward Prewitt at  
[hotseat@cio.com](mailto:hotseat@cio.com).

## GM's Matrix Reloads

*How an org chart can inspire internal competition, drive process efficiencies and make a business more competitive*

BY EDWARD PREWITT

The IT challenges at General Motors have always been huge. The immense scale of the enterprise, the extreme autonomy of the business units (until recently, Buick, Cadillac and Oldsmobile weren't just brands, they were baronies), the hijacking of the entire IT function by Ross Perot's EDS in the early '90s—all combined to create one giant hair ball of IT problems.

When Ralph Szygenda became GM's first corporate CIO in 1996, EDS had just been spun off from GM, but it was still running all of the company's systems. Consequently, GM had no IT staff of its own. "There weren't any IT people to speak of; there was no IT leadership," Szygenda recalls. "How do you transform *that*?"

His answer, which got quite a bit of publicity at the time, was to build an organizational matrix of IT managers unlike that found in any other company. Szygenda hired five divisional CIOs to correspond roughly to GM's business divisions: North America; Europe; Asia-Pacific; Latin America, Africa and the Middle East; and finance. At the same time, he hired five process information officers (PIOs) to work horizontally in different specialties across all divisions around the world: product development, supply chain management, production, customer experience and business services (HR, legal and so on). These CIOs and PIOs came on board in 1997 to form the management organization of GM's IT, formally known as Information Systems & Services (IS&S).

CIOs and PIOs work from divergent perspectives and have different reporting relationships. Each CIO reports not only to Szygenda but also to business heads; PIOs report to Szygenda alone. IT managers refer to "the matrix" or "the basket

weave" to determine their relationship with one another and to explain their occasional clashes. (See "How the Matrix Works," Page 92.)

This matrix, proven over time, has been a critical part of how IS&S took control of IT spending from EDS. During the past seven years, Szygenda's team has



**GM CIO Ralph Szygenda allows that his matrix "bothers a lot of people," but it has helped him trim his IT budget by \$1 billion over the past seven years.**

lowered GM's IT budget by \$1 billion (25 percent). Where previously GM used 7,000 different information systems, there are now fewer than 3,500.

By setting up overlapping, intersecting responsibilities among his direct reports, Szygenda designed the matrix to create internal competition, believing that was how to improve processes. "CIOs are driving efficiency in their world and PIOs are driving efficiency horizontally," says Cherri Musser, PIO for supply chain operations, who has twice been a CIO within IS&S

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# Hot Seat

and who was one of Szygenda's first hires.

GM's experience illustrates the impact an organizational structure can have on busi-

ness. But before you start whipping up internal competition in a GM-style matrix, consider this: The effectiveness of the matrix rests as much on the managers who work within it as on their defined reporting relationships.

## The Matrix in Action

The matrix works because it integrates different viewpoints for better, more thorough decisions, says Dan McNicholl, CIO for GM North America. To illustrate his frequent debates with PIOs such as Kirk Gutmann, who heads up global product development and global service delivery, McNicholl gives this example: "I might say, 'Kirk, what are the next areas I should be focusing on in my product development cycle? What tools should we be standardizing on? What architectures should we be using? What do you think are funding priorities?'"

McNicholl balances Gutmann's input with what he hears as a member of the North American Strategy Board, which includes business-side executives from the division. "If Kirk says, 'I think we ought to focus on A, B and C,' I can say, 'Well, you know, I've heard [the exec committee] talk about A and C a lot, but B doesn't get a lot of attention, so maybe that isn't a priority,'" McNicholl explains.

Those who work within the matrix sometimes grumble about it. The matrix "doesn't come without a price," says Steve Hanna, PIO for business services and application solutions delivery. "Sometimes it takes longer to get to a decision—we circle around it for a while." McNicholl, who unlike the PIOs has budgetary responsibility, says, "Every PIO thinks they're the most important, [but] we can't afford everything." CIO-PIO disagreements get aired at the six-and-a-half-hour meetings Szygenda holds with his direct reports every Friday morning in a room high up in Detroit's Renaissance Center office towers.

But the price seems worth paying. "It's important to have creative tension," says

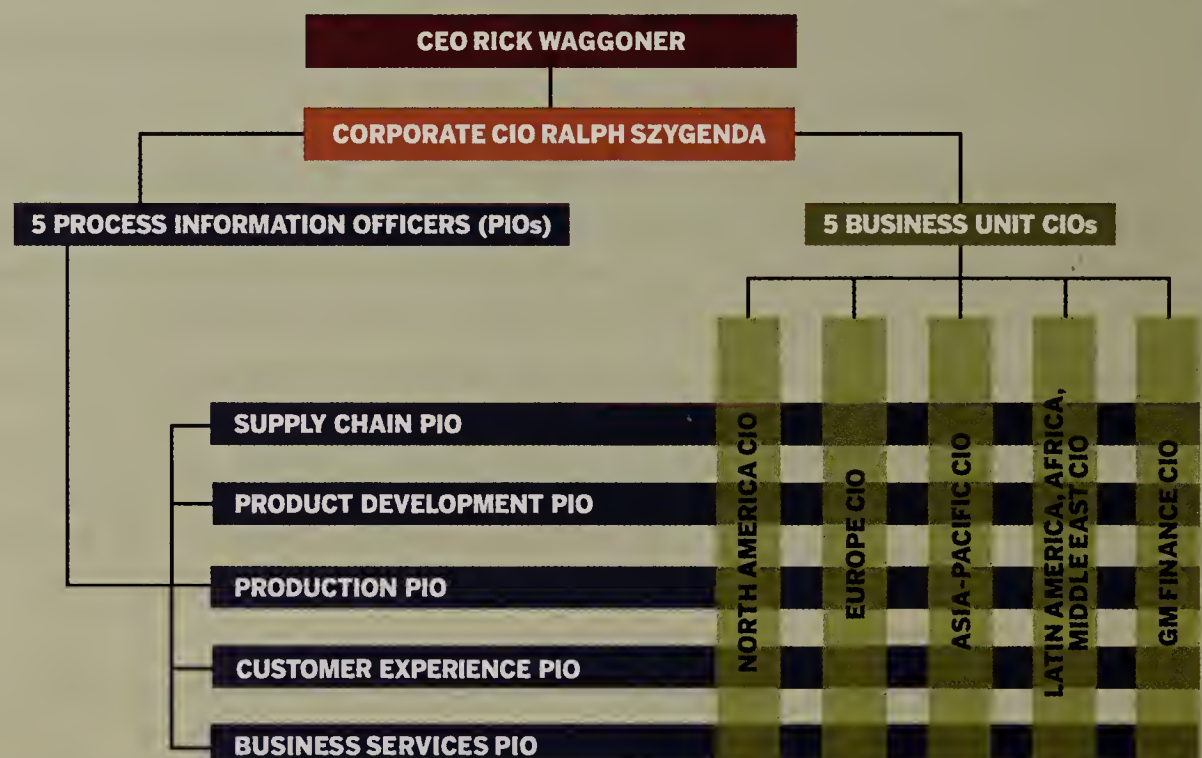
McNicholl. "Most companies don't have that. They spend too much on IT, or fund the who yells loudest." Hanna adds, "When you don't have that cross-pollination [created by CIOs and PIOs], you lose that broader view."

Indeed, IS&S's matrix has been so successful that GM's business side has adopted it—the ultimate compliment. In early 1998, CEO Rick Wagoner set up global process leaders in the business units who parallel IS&S's PIOs—a case of IT leading the business side to alignment.

GM's matrixes arguably have led the company to huge gains in manufacturing quality and productivity in recent years, although the public's perception of GM vehicles remains skeptical. In May, J.D. Power and Associates released its "2003 Initial Quality Study," viewed as a benchmark of new car quality. Although GM as a company rated only average, Cadillac, Buick and Mercury were among the top six makes, ahead of Toyota and Honda. (The top 11, in order, were Lexus, Cadillac, Infiniti, Acura, Buick, Mercury, Porsche, BMW, Toyota, Jaguar and Honda.) Szygenda argues that "GM

## How the Matrix Works Responsibilities overlap. Process improves. So says GM.

- **The Process Information Officer (PIO)** for Supply Chain, for example, is responsible for the supply chain across all geographic divisions and finance.
- **The CIO for North America** is responsible for all the IT processes—product development, supply chain and so on—within his region.
- **PIOs report** directly to Corporate CIO Ralph Szygenda.
- **CIOs report** to Szygenda and to their business unit heads.
- **CIOs** have budgetary responsibilities.
- **PIOs** do not.



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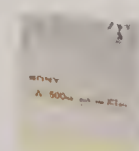
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# Hot Seat

is so close to Toyota and Honda, it's a non-issue. We had a product problem in 1996. We don't anymore."

Many factors have contributed, but IT's role in GM's turnaround shouldn't be underrated, says Kevin Prouty, automotive research director for GartnerG2, which analyzes vertical industry. "The IT backbone is what drives processes" at auto companies, he says. "The technology and business processes are so intertwined, you have to have someone in charge of processes." That someone is Szygenda's invention, the PIO.

## The Matrix Evolves

Now Szygenda is adding another layer to the IS&S matrix in an effort to gain even greater efficiencies. One executive calls it "a third dimension." Last April, Szygenda announced the creation of three virtual "factories" within IS&S:

- An IS factory, pulling together all IT executives and staff who maintain and run hardware and software, including software development and e-business systems.
- An operations factory, tying together IT people who are primarily concerned with manufacturing and supply chain operations.
- An enterprise business management factory, for internal processes such as contract management, purchasing and HR.

Each factory formed its own steering committee to look for ways to reengineer its processes. Although GM's operations have improved in the past few years, there's still a fair amount of fat, says McNicholl. "In one year, I was asked by PIOs to fund four different lessons-learned databases. It's good to do that once, but three?" Responsibility for reining in eager database developers now falls to the new IS factory.

The factory overlay may sound like a confusing twist to an already complex structure, but it's what GM needs, says Maryann Goebel, IS&S's chief strategy offi-

## MANAGEMENT REPORTS Leadership Lag

### Why Followers Don't

Between the visions of corporate leaders and the realities of their employees lies a gap the size of the Grand Canyon, according to a survey conducted last spring of more than 11,000 U.S. workers.

FranklinCovey, which as a company focuses on effectiveness assessment and training, surveyed frontline workers, managers and executives across a broad range of private companies and government agencies on how well their organizations function. The responses to the statistically valid "Execution Quotient" study paint a *Dilbert*-like picture of the workings of U.S. organizations.

Regarding high-level goals, only 52 percent of employees said their organizations have decided what the most important ones are, and only 44 percent said they clearly understand the goals. Only 19 percent of survey respondents said their work goals are clearly defined, and a mere 9 percent believe their work has a strong link to their organizations' top priorities.

So just what are U.S. workers doing all day long? Nearly a third of survey respondents' time goes to activities that demand immediate attention but are mostly irrelevant to top organizational goals, such as unproductive meetings and micro-management. Another 19 percent of their time is spent dealing with internal bureaucracy.

Personal effectiveness guru Stephen R. Covey, who is the author of

*The 7 Habits of Highly Effective People* and vice chairman of FranklinCovey, offers some advice on countering this dismal prospect. First, leaders need to settle on a few clear top goals and then incessantly communicate them down the line. Covey warns that it's easy to assume that frontline workers are aware of organizational goals when in fact they've never received the message. Second, workers at all levels



must understand how their work aligns with the top organizational goals. The best way to accomplish that, Covey says, is for each person to work with her manager in formulating her individual work plans. And in a corollary of Covey's famous "first things first" mantra from *The 7 Habits*, he advises employees at all levels to be disciplined in their daily work. Rather than being sucked into tasks that seem urgent but are only superficially important, everyone should think about his priorities each morning, build a work plan that will result in the greatest progress toward top goals, and then stick with the plan throughout the day.

—Edward Prewitt

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## Hot Seat

cer, who now also heads up the enterprise business management factory. "As crazy as it sounds, [the factory concept] does help sim-

plify things, to think of each activity falling within one of three factories," she says. "The familiarity we [already] have with the matrix makes us ready for the next step."

### The Matrix Replicated?

Given the impact the matrix has had at one of the world's largest companies, why haven't more CIOs adopted a similar organizational arrangement? Szygenda has an answer: "The matrix bothers a lot of people." It's too complicated, too redundant. GM's size and the overgrowth of IT systems prior to 1996 made it right for them but, says Szygenda, "You can't take the same model across companies."

Two big auto parts makers, Johnson Controls and Delphi, have adopted a form of GM's matrix, but Delphi spun off from GM, and Johnson Controls is a big GM supplier. Prouty thinks the real reason matrix-style structures haven't spread is that only a few executives can tolerate and make creative use of the tension they foster.

"The thing that's unique at GM is that the people who work there [are able to] balance between collaboration and competitiveness," Prouty says.

Szygenda says that ability was precisely what he was looking for in 1996 when he interviewed 300 candidates. "A lot of the 300 were great CIOs or consultants, but I didn't think they could team" with others. Ultimately, he says, the effectiveness of any organizational structure comes down to the personal qualities of the executives, managers and employees who work within it. **CIO**

How important is organizational structure to IT success? Send your thoughts to Leadership and Management Editor Edward Prewitt at [eprewitt@cio.com](mailto:eprewitt@cio.com).

**Leadership Agenda** BY SUSAN H. CRAMM

# How to Win Allies and Influence Your Peers

*Professional relationships can advance—or sink—your career*



It could keep you up at night—the thought that you could get fired suddenly in spite of the good work you have done. I received a call a few weeks ago from a very talented CIO in shock after being terminated on trumped-up charges of financial improprieties. He had been with the company for several years and had been promoted to CIO a little more than a year before. During that time, his accomplishments were impressive: improved governance, alignment with the business, strategic positioning and delivery in spite of organizational downsizing.

In the CIO's final meeting with the CEO, when the charges were presented, the CEO ended with a question: "Why didn't you play golf with us during the last offsite?" You may ask (as did the CIO) what golf had to do with the cause for termination. Although the CEO denied any connection, in a single question he was more honest and direct about the underlying cause for the rift than he had been during the previous few months, when his relationship with the CIO degraded from strained to hostile.

This example underscores the importance of building relationships to be a successful CIO. To be sure, relationships are important at almost every professional level, but the stakes increase once you get to the top job and have to balance the needs of a diverse group of stakeholders.

To address this issue, large companies spend a boatload of money on developing competency models that identify critical values, behaviors and skills necessary for executive success. Executive recruiters and career counselors advise their clients to understand their personal motivators (including financial rewards, power and influence, lifestyle, autonomy, affiliation, workspace, intellectual challenges, skill building, and recognition) and examine their cultural fit with companies accordingly.

Unfortunately, competency models, personal awareness and interviewing processes are imperfect at best. At some point, you will find yourself working with people you don't really like—and most likely, they'll feel the same way about you.

Although relationships are two-sided and you cannot control the behavior of the other party, it is possible to change the nature and quality of a relationship.

**BE POSITIVE.** Executives are optimistic by nature. They believe in possibilities and are attracted to people who approach work and life with enthusiasm. Make it your goal to leave the participants in each meeting and interaction feel-



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# Hot Seat

ing energized, by placing their needs in front of your own. Don't sap energy by complaining, commiserating or gossip-

ing. Put work in proper perspective by developing a personal life with outside interests and passions. When asked "How are you?" make sure that you can say "Great!" with conviction.

**SAY YES.** If you are asked for something, find a way to say yes. Don't negotiate the what, only the how and when. The phrase that you should eliminate first from your speech is "yes, but"—it really means no and will stop a conversation dead in its tracks. Instead, ask questions that will clarify the goal, and then fill in the blanks by getting your subordinates working together.

**DO THE LITTLE THINGS.** Find out how your counterparts use technology, and make it easier, slicker and more personal. Compliment their organizations on their successes and hard work. Recognize their birthdays or company anniversaries or kids' graduations or sports awards. Invite them to participate in the vendor gimmes—basketball tickets, golf tournaments and so on.

**FACE YOUR SHORTCOMINGS.** Search out feedback on your performance, and enlist others in supporting your professional development. We all have issues. You will gain a lot of respect and support by demonstrating the ability to listen and change.

In my example, the CIO did deliver the goods, but he did it in a way that disenfranchised the CEO. Truth be told, the CEO was a bit of a head case, forever changing strategies, without follow-through and with questionable integrity. Although it is unlikely that the CIO would have remained with the company for the long term, he lost control of the decision because he put his needs over those of the CEO. He poked holes in the

CEO's visions and publicly challenged the effectiveness of the executive team.

For some people, this advice may seem superficial. But by giving up control (by placing the needs of others over your own), you will gain control over your employment. If you decide that the company is not for you, you will be able to exit on your terms, rather than theirs.

## Reader Q&A

*Susan H. Cramm answers questions on "How to Win Allies and Influence Your Peers"*

**Q: Recently our company had an outside consultant assess our organization. One point that came up was that we are a "relationship-based company" versus a "data-driven decision company." The fact that our fairly new CEO now wants us to be less relationship-driven is good, but according to your article, it sounds like a pipe dream. Do you concur?**

**A:** Even though your CEO wants to put numbers in the people, I am sure he understands that it is impossible to take the people out of the numbers. If it's true that your decision-makers do not let facts get in the way of their assessments, then tipping the balance toward data-driven decision making should be a welcome relief to customers, competitors and frontline employees.

**Q: The CEO in your column dealt with the employee one-on-one. Is it more appropriate to deal with "problem" employees that way, or is it better to use the new managerial approach of chastising the entire unit—thus creating a negative attitude across the board?**

**A:** Scolding an entire unit, rather than dealing with those accountable, is not a new managerial trend. Typically it's the desperate act of a leader acting out of fear because he doesn't know what

to do. It is similar to a frustrated parent resorting to screaming at the children. Nobody learns anything, nothing changes, and everybody wants to move out (of the house or the company) just as soon as they can.

**Q: Nice article, but sometimes these hints are not applicable in an international company, where you deal with different cultures.**

**A:** Philosophers say that man is driven by two things: the need to be good and the need to be significant. The CIO in my example undermined the CEO in both respects. He challenged the company's strategic direction and the way the CEO was leading the organization. If certain behavioral hints just don't work in your culture, then translate them, keeping the underlying drivers in mind.

**Q: I never met my boss, who was in another state. Our communication was only by telephone and e-mail for more than five years. A month after we finally met, I was fired on trumped-up charges of inaccurate data. The only thing I can put my finger on is that I'm a member of a racial minority, which the boss did not realize all that time. How do you change that? Later I discovered that image was everything with this person.**

**A:** You don't change the boss. Make sure you learn what you can from the situation and move on. Find a professionally run company and meet your boss face-to-face. Last but not least, don't become jaded and lose your willingness to invest in building strong relationships. **CIO**

To see more reader questions and answers from Susan H. Cramm, go online to [www.cio.com/leadership/agenda.html](http://www.cio.com/leadership/agenda.html). Cramm is president of Valuedance, an executive coaching firm based in San Clemente, Calif. Her e-mail address is [scramm@cox.net](mailto:scramm@cox.net).

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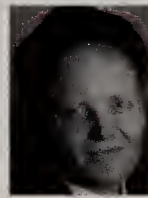
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# EXECUTIVE Summaries

September 1, 2003

## COVER STORY Outsourcing Backlash

Christopher Koch | 44

**T**hough all believe that the offshore outsourcing trend will continue, some CIOs are privately worrying about its effect on a sick economy and wondering if it isn't happening too quickly. As IT employees see many of their jobs moving offshore in a bad economy, a backlash is growing—leading to the politicization of workers, a grass-roots white-collar labor movement and legislation that would limit foreign worker visas. And there are long-term implications for the U.S. IT industry: The jobs that are going offshore are permanent. If the bulk of technology work moves offshore, the deep, experiential knowledge that comes from coding applications and solving technology problems—the foundations of technology innovation—could also move offshore. CIOs, including the ones who are worried about these ramifications, see the offshore movement as inevitable—the apparent cost savings are just too seductive. But CIOs can take several steps to limit the damage done to their U.S. IT workers, including offering them an opportunity to learn new skills and become the kinds of employees who won't be outsourced offshore, at least in the short term.

**“Do you want to do business with companies that take away jobs for U.S. citizens by outsourcing work to foreign countries or hiring nonimmigrant foreign workers to work here on a visa?”**

—FROM WWW.TORAW.ORG, THE WEBSITE OF THE ORGANIZATION FOR THE RIGHTS OF AMERICAN WORKERS

## The True Costs of Offshore Outsourcing

By Stephanie Overby | 60

**BARGAIN-BASEMENT LABOR RATES** tell only a fraction of the story about offshore outsourcing costs. The truth is, *no one* saves 80 percent shipping IT work to India or any other country. Few can even say they save half that. What many execs leading the charge offshore fail to appreciate is that it takes years of effort and a huge up-front investment to arrive at even a modest level of savings. Vendor selection and initial travel costs add 1 percent to 10 percent to the real cost of a deal. It takes three months to a full year to hand the work over completely to an offshore partner and set up necessary network infrastructure, adding another 2 percent to 3 percent to total cost. Then there are costs from transition-related productivity slumps—on average, application development efficiency declines 20 percent during the first two years of a contract. Once the work is transitioned, the costs of ongoing management contribute another 6 percent to 10 percent above the contract cost.

## Weather Disaster Recovery

By Matt Villano | 68

**CIOs HAVE SCRAMBLED** to set up terrorism contingency plans in the wake of Sept. 11, but what's far more likely to knock their companies for a loop is that dark, greenish cloud building on the horizon. A record outbreak of tornadoes in May ravaged the Midwest. And flooding hit the Atlantic seaboard even before the start of hurricane season. CIOs might be ready for the next terrorist attack, but if they're not ready for the next nor'easter, with a plan founded on colocation, distribution and backup, then they've left their companies shamefully vulnerable. In this story, companies in Texas and Tennessee share their weather disaster tales of destruction and recovery, along with lessons learned in the process.

## Case Files: P&G's Global CRM

By Meg Mitchell Moore | 79

**PROCTER & GAMBLE** needed to figure out how to implement a CRM system on a worldwide level, making it broad enough to be global but flexible enough to meet the needs of local markets. The company chose Siebel as the single integrated platform that could be scaled down for the smaller markets and would satisfy the three following goals: 1. Integrate systems to eliminate inconsistencies in product data and simplify synchronization of internal data with retailers' systems; 2. Provide a reliable way of managing promotions and incentives and tracking their success; 3. Enable a streamlined sales force to get its messages out in the field. For implementation, P&G did not attempt to mandate global CRM projects; all initiatives would come from the ground up, driven (and justified) locally—because they use the basic Siebel platform. Returns from the North American implementation have been so positive that other countries are clamoring for a piece of the action.

## Hot Seat: Organizational Matrix

By Edward Prewitt | 90

**WHEN RALPH SZYGENDA** became the first-ever CIO at General Motors in 1996, EDS had just been spun off from the company, leaving GM with no IT staff or leadership of its own. Szygenda's widely reported response was to build a unique organizational matrix of IT managers. Divisional CIOs, corresponding to GM's business divisions, face off with process information officers (PIOs), who are responsible for global processes such as supply chain management. This matrix was a critical part of how GM IT took control of spending from EDS, as CIOs and PIOs each sought improvements and efficiencies in their own spheres. But before you start whipping up internal competition among IT managers, consider that the effectiveness of the GM IT matrix rests as much on the high quality of the GM managers who work within it as on their reporting relationships.

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A skeleton is seated in an office chair, facing a computer monitor. The skeleton's hands are clasped together near its face. The background includes a clock on the wall and a desk with papers. The text is overlaid on the image.

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